



**FOREIGN  
BROADCAST  
INFORMATION  
SERVICE**

# ***JPRS Report***

# **Environmental Issues**

**DISTRIBUTION STATEMENT B**  
Approved for public release  
Distribution Unlimited

19980112 155

**DTIC QUALITY INSPECTED 3**

REPRODUCED BY  
U.S. DEPARTMENT OF COMMERCE  
NATIONAL TECHNICAL INFORMATION SERVICE  
SPRINGFIELD, VA. 22161

# Environmental Issues

JPRS-TEN-92-009

## CONTENTS

22 May 1992

### INTERNATIONAL

UNCED Preparatory Meeting Progress Reported [Beijing XINHUA 4 Apr] .....	1
Small Island States Prepare 'Policy Plan' for Rio Meeting [Bridgetown CANA 7 Apr] .....	2
NGO's Global Forum To Parallel Rio Earth Summit [Sao Paolo VEJA 8 Apr] .....	2
Countries Worried About Poison Gas in Baltic Sea [Stockholm SVENSKA DAGBLADET 23 Mar] .....	3
Convention on Baltic Marine Environment Signed [Moscow ITAR-TASS 9 Apr] .....	6
Bilateral Conference Endorses Heightened U.S.-Japanese Cooperation [Tokyo KYODO 11 Apr] ...	6
Kuala Lumpur Declaration on Environment [Kuala Lumpur NEW STRAITS TIMES 30 Apr] .....	7
Delegates Review Kuala Lumpur Declaration on Environment [Kuala Lumpur BERNAMA 29 Apr] .....	9
Planning, Management Conference Urges Formation of Regional Association [Tehran IRNA 29 Apr] .....	10

### AFRICA

#### REGIONAL AFFAIRS

Southern African Drought Situation Analyzed [Johannesburg SAPA 7 Apr] .....	11
ICDCS Summit Issues Communique [Ouagadougou Radio 11 Apr] .....	11

#### MOZAMBIQUE

Swedish Organization To Invest in Cabo Delgado Reforestation Project [NOTICIAS 3 Feb] .....	12
---	----

#### NAMIBIA

Nujoma Declares 'National Emergency' Over Drought [SAPA 3 Apr] .....	13
Minister Says Fishing Policies Beginning To Show Results [SAPA 9 Apr] .....	13

#### SOUTH AFRICA

CITES Gives Go Ahead on Sale of Crocodile Products [Johannesburg Radio 10 Apr] .....	14
--	----

### CHINA

Joint Venture With Germany on Environmental Protection [CHINA DAILY 13 Apr] .....	15
Premier Stresses Importance of Rio Summit; Cooperation With Germany [XINHUA 13 Apr] .....	15
Draft Rio Declaration Seen as 'Good Basis' for Further Consideration [XINHUA 28 Apr] .....	15

### EAST ASIA

#### REGIONAL AFFAIRS

Spread of Air Pollution in Northeast Asia Viewed [Seoul YONHAP 11 Apr] .....	17
--	----

#### AUSTRALIA

Nuclear Waste Research Agreement With China Reported [AFP 2 Apr] .....	17
Greenpeace Australia Calls for Permanent Nuclear Test Ban [AFP 10 Apr] .....	18

## INDONESIA

- Indonesia 'Not Satisfied' With New York Environment Meeting [ANTARA 13 Apr] ..... 18

## JAPAN

- Ex-Premier Takeshita on Japan's Role in Global Environment [TOKYO SHIMBUN 28 Mar] ..... 19  
Government Launches Major Study of Proposed Environment Tax [KYODO 6 Apr] ..... 19  
Decision on Environment Tax Postponed Until After Earth Summit [KYODO 15 Apr] ..... 20  
Business Group To Start Environmental Fund for Developing Nations [KYODO 10 Apr] ..... 20  
Brazil Urges Japanese Funding Support for Earth Summit [KYODO 13 Apr] ..... 21  
UNCED Organizer Urges Japan To Assert 'Global Leadership' [KYODO 14 Apr] ..... 21  
Tokyo Promises Significant Role on Global Environment [KYODO 27 Apr] ..... 22

## SOUTH KOREA

- Government Plans Special Body for International Environmental Issues [YONHAP 9 May] ..... 22

## MALAYSIA

- Malaysia To Set Up Anti-Environmental Task Force in Europe  
[Kuala Lumpur Radio 31 Mar] ..... 23  
Minister Proposes Tightening of Logging Concessions [Kuala Lumpur Radio 9 Apr] ..... 23  
Researcher Says Kuala Lumpur Ozone Level Beyond WHO Limits [AFP 11 Apr] ..... 23  
German Firm To Help Promote Palm Oil Products [BERNAMA 13 Apr] ..... 24  
Mahathir To Attend Rio Earth Summit [BERNAMA 29 Apr] ..... 24  
Editorial Previews UN Environment Conference [NEW STRAITS TIMES 30 Apr] ..... 25

## THAILAND

- Environment, Industry Groups Resist U.S. Trade Accusations [BANGKOK POST 1 Apr] ..... 25  
MPs Say Massive Pollution in Northeast Rivers Caused by Mill [THE NATION 5 Apr] ..... 26

## EAST EUROPE

### ALBANIA

- Elbasan Steelworks Country's Worst Polluter [Tirana Radio 2 Apr] ..... 27

### BULGARIA

- Law on Ecological Requirements for Development, Investment Projects  
[DURZHAVEN VESTNIK No 54, 9 Jul] ..... 27

### CZECHOSLOVAKIA

- Slovak Green Party Warns of 'Ecological Indebtedness' [Bratislava Radio 23 Mar] ..... 34

### HUNGARY

- Official on Government Termination of Bos-Nagymaros Dam Contract  
[MAGYAR HIRLAP 26 Mar] ..... 35  
EBRD Signs Investment Program for Environmental Protection [MTI 11 Apr] ..... 36

### ROMANIA

- Ecologist Condemns Practice of Storing Western Waste [ROMPRES 10 Apr] ..... 36

## LATIN AMERICA

### REGIONAL AFFAIRS

- Congressmen's Meeting Seeks Better North, South Relations [Brasilia Radio 29 Apr] ..... 37

### ARGENTINA

- Government, Political Parties Agree on National Forest Plan  
[BUENOS AIRES HERALD 11 Apr] ..... 37

### DOMINICAN REPUBLIC

- 'Disastrous' Situation of Nation's Forests Noted [EL NACIONAL 24 Feb] ..... 37

### GUATEMALA

- Environmental Study on Guatemala City Published [SIGLO VEINTIUNO 23 Feb] ..... 38

## NEAR EAST/SOUTH ASIA

### EGYPT

- Study Projects Future Water Needs [London AL-HAWADITH 22 Jan] ..... 41  
Expert Cites Egypt's 'Haphazard' Environmental Planning  
[London AL-SHARQ AL-AWSAT 23 Feb] ..... 41

### INDIA

- Minister Elaborates India's Position at UNCED [INDIAN EXPRESS 23 Feb] ..... 42  
India Opts To Join Amended Montreal Protocol [Delhi Radio 7 Apr] ..... 43  
Environment Minister Views SAARC Countries' Stand on Earth Summit  
[DECCAN HERALD 10 Apr] ..... 43

### IRAN

- Weak Laws Hamper Efforts of National Forests Organization  
[JOMHURI-YE ESLAMI 12 Mar] ..... 44

### ISRAEL

- Continuing Annual Increase in Air Pollution Noted [HA'ARETZ 6 Apr] ..... 44  
W. Bank Jewish Authorities Establish Joint Ecological Unit [THE JERUSALEM POST 10 Apr] . 45

### SAUDI ARABIA

- Official Details Government Agriculture, Water Subsidies [UKAZ 8 Mar] ..... 45

## CENTRAL EURASIA

- CIS Environmental Policy Prospects Viewed [NEZAVISIMAYA GAZETA 24 Jan] ..... 49  
Russia To Continue Nuclear Testing [INTERFAX 1 Apr] ..... 50  
Vice President Rutskoy To Head Delegation to Rio Earth Summit [INTERFAX 13 May] ..... 50  
Danilov-Danilyan on Structure, Tasks of Russia's Environment Ministry  
[SPASENIYE No 1, No 5, Jan, Feb] ..... 50  
Environment Minister Views Russia's Ecological Program [KURANTY 12 Mar] ..... 55  
Yablokov Issues Statement on Russia's Ecological Situation [IZVESTIYA 23 Jan] ..... 57  
Yablokov Proposes Concept for Russia's Ecological Security [SPASENIYE No 5, Feb] ..... 58  
Yablokov Warns of Russian Nuclear Plant Dangers [INTERFAX 2 Apr] ..... 61  
Functions of Russia's New Nuclear Safety Oversight Office Defined [SPASENIYE No 5, Feb] ..... 62  
Ecological Legacy of 'Minatomenergoprom' [KULTURA No 5, Feb] ..... 62



Assurances of Leningrad Reactors' Safety Questioned [ROSSIYSKAYA GAZETA 3 Apr] .....	65
Leningrad AES Incident Commission Chairman Reports Findings [KOMMUNISTSKAYA PRAVDA 4 Apr] .....	65
'Mayak' Develops Safe Method of Storing Nuclear Waste [ITAR-TASS 10 Apr] .....	65
Russia's Environmental Experts Victims of Economic Reform [KURANTY 4 Feb] .....	66
Ulyanovsk Institute Financial, Cadre Problems Imperil AES Safety [ROSSIYSKAYA GAZETA 26 Mar] .....	68
History of Secrecy, Incompetence on Dioxin Issue Scored [NEZAVISIMAYA GAZETA 16 Jan] ..	68
Revamping Russia's Pollution Fine Structures [SPASENIYE No 5, Feb] .....	70
Udmurtia Discusses Ways To Dispose of Chemical Weapons [ITAR-TASS 1 Apr] .....	71
Ecological Improvements at Novotroitsk Metal Works Reported [ITAR-TASS 10 Apr] .....	72
'Self-Preservation' Ecological Movement Formed [SELSKAYA ZHIZN 30 Jan] .....	72
Roundtable on Joint Action Program for Saving Volga River [SPASENIYE No 2, Jan] .....	73
Conference Examines Environmental Business Prospects in Russia [SPASENIYE No 5, Feb] .....	75
Concessions Advocated as Environmental Policy Tool [NEZAVISIMAYA GAZETA 17 Mar] .....	77
Far East Joint Venture Ready To Dismantle Nuclear Submarines [Ostankino TV 29 Mar] .....	78
Environment Official on Future of Ukraine's National Parks [HOLOS UKRAYINY 28 Jan] .....	78
Soviet Military Bases Leave Legacy of Ecological Damage in Ukraine [SAMOSTIYNA UKRAYINA No 9, Feb] .....	80
Report Suggests Earthquake as Cause of Chernobyl Disaster [TRUD 26 Feb] .....	81
Study Finds Chernobyl Radiation Levels More Dangerous Than Calculated [ITAR-TASS 30 Mar] .....	82
Ukraine Cabinet Adopts Resolution on Chernobyl Closure [Kiev Radio 1 Apr] .....	82
Government Statement on Ecological Threat at Odessa Oblast Power Plants [UKRINFORM 6 Apr] .....	82
Health Ministers Sign WHO Program on Chernobyl [ITAR-TASS 7 Apr] .....	82
History of Radiation Safety at Semipalatinsk Detailed [KAZAKHSTANSKAYA PRAVDA 4 Jan] ..	83
Kazakhstan Seeks Practical Use of Ecologically Pure Energy Sources [ITAR-TASS 6 Apr] .....	84
New Variant for Diverting Ob River Runoff Proposed for Aral Region [POZITSIYA No 23, 1-15 Dec] .....	84
Aral Committee Officials Protest Squandering of Funds [PRAVDA VOSTOKA 13 Feb] .....	86
Estonia's Environment Minister on Cost of Baltic Sea Cleanup [BALTFAX 11 Apr] .....	87
Latvia Lodges Protest Over Chemical Weapon Pollution in Baltic [Riga Radio 7 Apr] .....	88
Lithuania's Greens Score Government on Environment Initiatives [LETUVOS RITAS 17-24 Jan] .....	88
Lithuania, Sweden Sign Environmental Cooperation Accord [Vilnius Radio 31 Mar] .....	88

## WEST EUROPE

### REGIONAL AFFAIRS

EC's Fifth Environment Action Program Highlighted [Antwerp DE FINANCIËLE-EKONOMISCHE TIJD 7 Jan] .....	89
EC Goals for Environment Summit Discussed [Duesseldorf VDI NACHRICHTEN 21 Feb] .....	89

### FINLAND

Eurajoki Nuclear Waste Depository Commissioned [Helsinki Radio 9 Apr] .....	90
---	----

### GERMANY

Disused Waste Dumps Pose Problem in Eastern Germany [LEIPZIGER VOLKSZEITUNG 28 Feb] .....	90
Fiber-Reinforced Pistons To Reduce Diesel Pollution [BILD DER WISSENSCHAFT Mar] .....	91
Lack of Energy Policy for Saxony Scored [LEIPZIGER VOLKSZEITUNG 4 Mar] .....	93
U.S. Environment Policy Seen as Based on 'Opportunism' [HANDELSBLATT 31 Mar] .....	93
Research Project Confirms Earlier Ozone Level Reports [DPA 7 Apr] .....	94
Topfer Proposes Panel on CIS, Eastern Europe Nuclear Safety [Tokyo KYODO 10 Apr] .....	94
Rio Summit Seen as Long-Term Opportunity [HANDELSBLATT 30 Apr] .....	95
Rio Summit Seen as Forum for OPEC Concerns [HANDELSBLATT 30 Apr] .....	96

**ITALY**

Government Environmental Policy Criticized [EUROPEO 11-13 Mar] .....	97
Report Issued on State of Environment [LA REPUBBLICA 27 Mar] .....	100

**SWEDEN**

Environmental Cooperation Accord With Baltics Signed [Stockholm Radio 30 Mar] .....	102
---	-----

### UNCED Preparatory Meeting Progress Reported

OW0504092492 Beijing XINHUA in English  
2336 GMT 4 Apr 92

[Roundup by Zhao Renfang: "Progress Made, Differences Remain at UNCED Preparatory Meeting"]

[Text] United Nations, April 4 (XINHUA)—The Fourth Session of the Preparatory Committee (Prepcom 4) of the UN Conference on Environment and Development (UNCED) ended here today with progress made on Agenda 21, but differences remained on financial resources and other issues.

The meeting, which began on February 2, was scheduled to prepare Agenda 21, Rio Declaration/Earth Charter and some other key documents for adoption by world leaders at the Earth Summit to be held in Rio de Janeiro.

After five-week long negotiations, delegates approved the 29-chapter Agenda 21 with some areas still open for further negotiation at Rio, especially those issues concerning financial resources and technology transfer.

Agenda 21, one of the important documents scheduled for adoption by the Rio conference, consists of a comprehensive plan of action, extending into the twenty-first century, covering major areas affecting the relationship between the environment and the economy.

In a telephone interview with XINHUA today, UNCED spokesman Jean- Claude Faby described the preparatory meeting as "a qualified success," saying that the spirit demonstrated by the participants has been one of cooperation and good will.

"We don't have all the results as were expected for and we will wait till Rio for that. But by and large, we have made significant progress towards the Rio conference," noted Faby after a weary night session to end the meeting.

On the Earth Charter, listing rights and obligations governing the economic and environmental behavior of peoples and nations to ensure "our common future", Faby said it contains no brackets. But it was agreed upon with the understanding that it will be for further consideration and finalization in Rio.

According to a Chinese delegate, reservations were expressed on some of the 27-point statement, which is called the Rio Declaration on the Environment and Development.

Asked to comment on this, Faby said the United States indeed have some reservations on Principle 7, which refers to common but differentiated responsibilities and also to the point that the developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their society place on the global environment.

He said the United States objected to this clause in connection with its attitude on global warming.

Some participants during the meeting criticized the United States for refusing to adopt an agreement to set a timetable and binding targets for limiting carbon dioxide emissions, which added to the greenhouse effect to bring damage to the environment.

On another key issues, the financial resources to implement Agenda 21, Faby said the question was still completely open. "That is an indication that perhaps the major political question before the Prepcom has not been resolved yet."

This was what yet to wait till Rio to see that developing countries are satisfied, Faby added.

It is estimated that 125 billion U.S. dollars are needed yearly to pay for Agenda 21 programs. Therefore an extra sum of 70 billion dollars a year was required as new and additional resources to the current annual 55 billion dollars of official development assistance.

At Prepcom 4, the United States and some major countries from the Organization for Economic and Development (OECD) have recognized the need for new and additional resources, but no money was promised.

Maurice Strong, UNCED secretary general, said yesterday at his last press conference before the closing of the meeting that "we recognized that agreement on program without agreement on means of implement will not result in its implementation."

However the UNCED chief noted that he believed that there was tremendous opportunity to free up resources for commitment by developing countries to reach sustainable development and to become full partnership in global environmental cooperation.

Sources said that technology transfer and institution issues will also go to the Rio Earth Summit for the government and state leaders to decide.

Prepcom 4, attended by about 1,200 delegates from some 175 countries and planned to end Friday, did not come to conclusion until five o'clock this morning.

The concept of development that is environmentally sustainable was raised at the 1972 UN Conference on the Human Environment and in 1989, the General Assembly decided to hold the UNCED, also called the Earth Summit to formulate global strategies concerning environment and development.

Up to now, about 70 heads of state and government have decided to attend the June Earth Summit, statistics from the EARTH SUMMIT TIMES, a newspaper covering Prepcom 4, shows.

### Small Island States Prepare 'Policy Plan' for Rio Meeting

FL0704225292 Bridgetown CANA in English  
1949 GMT 7 Apr 92

[Text] Bridgetown, Barbados, April 7 (CANA)—Caribbean and other developing countries heard a call Tuesday for earnestness by Third World nations to achieve economic self-reliance. The occasion was the opening of a conference of small island states on efforts to promote development while protecting their natural environments.

"....Small island countries, with their limited resources and operating within a complex, highly competitive, and rapidly changing environment, must develop an overriding commitment towards moving away from a situation of dependency to one of self-determination and self-reliance," said Barbados' acting Prime Minister Philip Greaves.

The conference, coming ahead of the United Nations Conference on Environment and Development in Rio de Janeiro in June, is regarded as an opportunity for the developing countries to discuss their concerns and prepare a common policy plan. Greaves said island countries needed to formulate "a consistent policy framework that promotes resource conservation. What is needed, now that we have launched this initiative and put 'small islands' on the agenda, is for multi-lateral organisations to focus increased attention on the peculiarities of 'small islands' and their unique requirements for sustainable development," said Barbados' Agriculture Minister Harcourt Lewis.

The four-day conference received a commitment from the Food and Agriculture Organisation [FAO] of the United Nations that such special support programmes should focus on generating solutions "clearly adapted to their resource constraints as well as their economic, social, and cultural conditions."

"FAO is ready to support your efforts to define and implement this approach in relation to agriculture, forestry, and fisheries; and we will join other international agencies and organisations as well as individual donor countries in your support," added Rafael Moreno, the FAO assistant director-general and regional representative for Latin America and the Caribbean. The conference has as its main focus development concerns relating to agriculture, forestry, and fisheries.

### NGO's Global Forum To Parallel Rio Earth Summit

92SM0371Z Sao Paulo VEJA in Portuguese 8 Apr 92  
pp 72, 73

[Text] The biggest ecological lobby group in the history of this planet is already warming up and getting ready to field its team noisily within eight weeks, when the Rio-92

Conference begins. Six thousand activists from the so-called nongovernmental organizations, or NGOs, entities from 110 countries that have interests at stake at the Earth Summit will be in Rio de Janeiro in June. They will be meeting in what is known as the Global Forum, an enormous parallel conference headquartered at Flamingo Park on the Rio seaside and will attempt to influence the outcome of the official meeting, whose headquarters will be the Riocentro in Jacarepagua. At the Global Forum, very traditional ecological entities such as Greenpeace and the World Wildlife Fund (WWF) will share the microphones with the International Chamber of Commerce, which is interested in discussing the biodiversity of the forests, a treasure trove that could yield new industrial patents for countries that have tropical rainforests. The NGO bloc even includes the Palestine Liberation Organization and its interests in the geopolitics of petroleum in the Middle East, a target of ecologists since the Gulf war. It is unlikely that those entities will achieve any consensus, but this does not seem to bother the organizers of the Global Forum.

"It is the interest in sustainable development, in progress without destroying nature, that will bring all those entities together in Rio," said Forum coordinator Warren Lindner, 49, an American who left a successful law practice to become an ecological activist. He still heads the Center for Our Common Future, in Geneva, from which he was recruited by the UN to coordinate the Global Forum. The discussions will be enlivened not only by the team of lobbyists, but by another noisy bunch captained by movements of feminists, minorities, and by ecological entities created on the eve of the conference in order not to miss out on the party. "If registrations had been restricted to entities that were established more than a year ago, we would have a better-qualified sample. Many NGOs were born out of political opportunism," says Herbert de Souza, known as Betinho, executive secretary of the Brazilian Institute of Social and Economic Analysis (IBASE), which relinquished the role of coordinator of the Global Forum because it disagreed with the lobbying of the NGO "arrivistes."

### Allergic to Businessmen

The opportunism of some activists will not compromise the seriousness of the parallel meeting. The heads of state know the traditional NGOs will serve as underwriters and strict overseers of what is to be decided at Rio-92. In the future, they will demand fulfillment of the commitments made at the UN conference. Many of the NGOs are capable of carrying out long-term, comprehensive ecological projects that would never otherwise get off the official drawing boards. So, they are respected. An example of this is Brazil's SOS Atlantic Forest [SOS Mata Atlantica], created in 1986 and now one of the most successful NGOs working in this country. With a modest annual budget of \$800,000, SOS Atlantic Forest is an example of how an NGO can move from criticism to effective action in order to preserve the environment. With backing from private enterprise, in 1990 the group made the first survey of what remains of the Atlantic

Forest, one of the most devastated on the planet, which retains only 8.8 percent of its original canopy.

Last week, the entity released a new study with even more precise figures on the deforestation of the area. In cooperation with the National Institute of Space Research (INPE), SOS Atlantic Forest discovered that the focal points of the deforestation of the Atlantic forest are still active. In Rio de Janeiro State alone, 30,000 hectares of forest were ruined between 1985 and 1990—an area equivalent in size to the city of Belo Horizonte. "The deforestation is occurring mainly because of real estate speculation and agriculture," explains Diana Hamburger, a geographer who is coordinating the project. "All the concerns are being directed toward Amazonia, but it is the Atlantic Forest region that is home to 80 percent of Brazil's people," said Joao Paulo Capobianco, superintendent of the organization. In contrast to many of the ecological entities, SOS Atlantic Forest is not allergic to businessmen. In fact it is chaired by one of them, Roberto Klabin, who is on the board of Klabin Industries.

#### No Vote

All over the world, the NGOs control millions of dollars and have teams of experts that are more capable than most governments have. An example: Oxfam, an organization set up in London 50 years ago, has worked with the people of the Sahara desert to develop technologies to prevent desertification of areas that are suitable for farming. To prevent soil erosion, for example, they use blocks of stone to support the contour furrows. The activities of these entities know no geographic boundaries. The WWF sponsors the conversion of debt into funds for environmental projects all over the world. Greenpeace, with its 5 million members (more than any Brazilian political party has) led the successful campaign to curb the expansion of nuclear energy. The Amazon Natural Resources Protection Service (Soprem) has been able to set up extractive agriculture reserves in the Amazon region, and did so years before international pressure was brought to bear on Brazil to take care of the rainforest.

"The world is not going to wake up greener when Rio-92 ends, but the future of the planet depends on the results of this conference," said Tony Gross, right-hand man of Global Forum coordinator Warren Lindner. At the parallel conference, the NGOs will be meeting at Flamingo Park, where 36 polypropylene tents are being erected to house the sessions. The most articulate lobby group will gather at the Hotel Gloria where, every morning, NGO activists will evaluate the decisions made by the official conference the day before. Four hundred observers from the NGOs will be able to attend Rio-92, but they will not be entitled to vote. The ones who run the show there are the heads of state and the official delegations. A giant television screen set up at Flamingo Park will transmit images and information on the official conference to the

lobbyists. Maurice Strong, secretary general of Rio-92, has personally promised to use the screen to keep the activists informed.

#### Backpackers

Initially planned as a mega-event, the Global Forum had to be scaled back for lack of money. The organizations wanted to sell 10 advertising quotas at \$800,000 each to finance the meeting. As of last week, they had not been able to sell any of them. Alarmed about the shortage of funds, the organizers asked the federal government for money. They were met with a resounding "no." But Rio de Janeiro Governor Leonel Brizola was willing to help. He promised \$2 million in official assistance. Brizola decided to help the Global Forum when he was notified by the president of the Commercial Association of Rio de Janeiro, Paulo Protasio, that he would be allowed only three minutes to address the official conference.

The UN has allocated \$1 million to the parallel meeting, and Brazilian officials have promised to guarantee infrastructure services for the participants. The activists will not have to pay for telecommunications, electricity, mail, or transportation. There will even be a little official help with accommodations. The \$50 registration fee paid by the lobbyists to attend the meeting does not include lodging, but the Rio government has offered to let the backpackers camp out at the Sambodromo.

#### Countries Worried About Poison Gas in Baltic Sea

92EN0347Z Stockholm SVENSKA DAGBLADET  
in Swedish 23 Mar 92 p 11

[Article by Fredrik Laurin: "Mass Dumpings of Poison Gas in Baltic Sea; Ten Times as Many Gas Bombs From World War II as Previously Known"]

[Text] The Baltic Sea conceals ten times more poison gas than has previously been suspected.

New information from East Europe compiled by the TT news agency shows that 300,000 tonnes of poison gas grenades were dumped into the Baltic Sea in the 1950's and 1960's.

A further 200,000 tonnes lie in the Skagerak—altogether almost five times as much chemical weaponry as was used during World War I.

According to the information received by TT, the Baltic Sea received poison gas ammunition from Hitler's Germany, the Soviet Union, and the GDR.

#### Arms Race

In the final phase of World War II, the combatants entered into an arms race with weapons which were never used. Horrible nerve gases were taken out of German and allied laboratories. Nerve and mustard gas bombs waited in huge warehouses to be spread over Europe.



It is said that the reason they were not used was due in part to the fact that Hitler was opposed to poison gas.

The victors were made responsible for hundreds of thousands of tonnes of disintegrating grenades throughout all of Europe—and the solution which was found was to dump them into the sea.

Previously it was known only that between 30,000 and 50,000 tonnes of German poison gas from major portions of formerly German-occupied East Europe and the GDR had been dumped into the Baltic Sea. Two sites are found marked on the navigation chart: northeast of Bornholm and southwest of Gotland.

### Secret Operations

TT's map shows that the Soviet Union also dumped off the Baltic coast and that the GDR engaged in extensive dumpings in the Baltic Sea.

In both secret and open operations during the 1950's and 1960's, the GDR and the Soviet Union together dumped 250,000 tonnes of poison gas in the Baltic Sea.

TT interviewed Gerhard Seifert, one official in the GDR who helped collect and dump the stocks. He is now retired and lives in Schwerin, in the former East Germany.

"During the operations in which I participated between 1957 and 1965, we dumped about 30,000 tonnes in the dumping area near Bornholm. How much we dumped right after the war, before I started, I don't know," Gerhard Seifert said.

"We were always secretive about the operations; They did indeed deal with gas grenades from the Third Reich. We dumped in broad daylight and at the internationally agreed upon site near Bornholm."

"It was only when we had to dump the GDR's own nerve gas that it became a bit more secretive. Then we traveled all the way to the waters between Iceland and Norway and we dumped at night," Seifert said.

"But what the Russians and Poles were doing, I don't know, they never told us anything."

However Aivars Lembergs, the mayor of Ventspils, Latvia, 16 [nautical] miles to the east of Gotland, does know.

### Sensitive for the Soviet Union

"According to information we got from the KGB and the Ministry of Defense, 200,000-300,000 tonnes were dumped into the Baltic Sea by the Soviet Union, Great Britain, and the United States after the war. We have no guarantees that no additional dumpings weren't carried out," Lembergs informed TT in a telex interview.

After 1947 the dumpings were sensitive for the Soviet Union, since it was no longer a question of captured

German poison gas but rather of their own stocks, whose existence Moscow never acknowledged.

Lembergs has had his information about the dumpings confirmed in two letters from Moscow, one from former Defense Minister Dimitri Yazov and one from Major Oleinikov, the deputy chairman of the KGB's General Committee.

Phillip Knightley, the English journalist who has interviewed the Soviet admiral who supervised the dumpings, also had the figure of 300,000 tonnes confirmed.

In Liepaja, a town several [nautical] miles south of Ventspils, people have been injured by the dumped ammunition when it washed up along the beaches in the form of gray lumps.

### Burns

Children and adults looking for amber collected the lumps, which resemble amber. Among other things, they burned spontaneously and produced serious burns; in other cases there were injuries to the skin similar to those fishermen in the Baltic Sea get when they catch mustard gas grenades in their nets or their trawls. About ten people each year are treated for injuries from the lumps which wash up on shore.

For many years the Soviet Union closed off an area off the Lithuanian coast that was larger than Gotland as an artillery field. There they gave training in airplane bombing and dumped chemical ammunition and firebombs.

In the newspaper IZVESTIA one Lieutenant Commander Terzkov told of how he took part in the dumping of chemical weapons off Palanga, an old seaside resort on the coast of Lithuania. According to Terzkov, 5,000 tonnes were dumped in the artillery field and 40,000 tonnes off Bornholm. The circumstances surrounding the Baltic dumpings are now being investigated by the Russian military.

In February Ottfried Hennig, an under secretary in the German ministry of defense, visited the Russian fleet's Baltic Sea base in Kaliningrad. At that time he was promised by the commander, Admiral Yegorov, that the Russian dumpings would be surveyed.

### Phosphorus Incendiary Bombs

According to Jurgen Aretz, Hennig's adviser, Yegorov had not thought about these issues and did not know the exact locations. However the admiral would initiate research in the fleet archives and, according to Aretz, an agreement was signed concerning joint action in the Baltic Sea to find the dumping sites.

Mostly the GDR dumped German mustard gas but it also dumped nerve gas and incendiary bombs loaded with phosphorus. The vessels left from Peneemunde and Wolgast on the Baltic Sea coast.

Most of the time the grenades were thrown overboard from barges, but on a few occasions they did as the English and the Americans did in the Skagerak and the North Sea—worn out hulks were crammed with grenades and gas containers and sunk.

"In the summer of 1962, we sank the Hano, a Danish vessel that was salvaged operating in the Baltic Sea," Gerhard Seifert said.

"She was loaded with 193 mustard gas bombs, 78 big bottles of phosgene, three tonnes of adamsite, one container of mustard gas, and seven with smoke bombs. We sank her at 15 degrees, 45 minutes east [longitude] and 55 degrees, 15 minutes north [latitude]; the depth varied between 85 and 105 meters," Seifert read from his memorandum.

The coordinates correspond to the area near Christianso off Bornholm, where Russians and Germans dumped even after the war.

#### Deaths

According to Seifert, the mustard gas has also washed ashore in the GDR and several deaths have resulted.

Dumpings may also have taken place off the Estonian coast. "I suspect that chemical weapons were dumped during the 1960's at two sites off Paldiski," said Vello Vare, a retired general who spent 47 years in the Soviet army.

Paldiski is a Russian military base to the west of Tallinn, where Soviet nuclear submarines once docked.

In the Skagerak the British and the Americans sank 150,000-200,000 tonnes of chemical weapons after World War II.

After the dumping site off Maseskar was disclosed in the fall of 1990, the Swedish National Administration of Shipping and Navigation requested information from the British Ministry of Defense, though it has not yet received any. However, after repeated inquiries, TT received the following answer:

"You are correct when you state that Great Britain dumped former German chemical weapons during the period after World War II. (...) Scientific research indicates that this constitutes no apparent risk to human health."

#### Center Party Leader Wants Survey

Center Party leader Olov Johansson will take up the problem of poison gas in the Baltic Sea at the Helsinki Commission's April meeting.

"This is frightening information," the Center Party leader said. "Of course the blame lies with those who carried out the dumping, but that does not mean that other countries can stand to one side."

Johansson is thinking of undertaking an initiative among the countries of the Baltic Sea to survey how much poison gas there is in the Baltic.

#### Now They Are Waiting For Cancer...; Norwegian Fishermen Caught a Grenade in Their Net

With blisters as big as the lid of a pot on their bodies, the seven men were taken from the Faeroese fishing boat Heldars Tindur and admitted to the Rikshospital in Copenhagen.

For several hours they had unknowingly worked in a cargo compartment spattered all over with mustard gas.

Today their lungs are damaged and all of them run a big risk of developing cancer.

The seven remained in the hospital for a month with their hands, eyes, and sexual organs attacked by the gas. Medical tests showed a clear risk of future cancer.

"We had caught a lot of fish with the trawl when the accident occurred," said Halvdan Gudmundsen, the Heldars Tindur's 30-year-old mate.

"But there was also a grenade which exploded when we got the trawl on deck. We understood it was something old from the war, but not that it was gas—that was supposed to be off Bornholm, and we were in the gray zone off the Baltic coast."

#### Lost Sight

Gudmundsen and his six friends scooped the fish down into the cargo compartment and began to clean up.

"After a few hours we started to vomit. A few of the guys lost their sight and we contacted land. A helicopter came eight hours later and picked up the three who had been burned the worst. The rest of us could manage and the problem would go away, the doctor said. He probably didn't know any better.

"But we got even worse and when two more men lost their sight I thought goddammit... I stopped the boat, turned on all the lights, and called over the radio to all boats around us that now they had to take care of us.

"When they finally came and got us, 14 hours had passed since we picked up the grenade. We had almost passed out."

Today almost seven years have passed since the Heldars Tindur caught the little grenade in its trawl.

#### Does Not Fish

"If there's to be any cancer, it'll come soon. It'll take seven to ten years before it develops, the doctors say."

Gudmundsen's bronchial tubes are extensively damaged and he coughs incessantly. He works as a teacher in Sandavagur in the Faeroe Islands—he no longer fishes.

Poison gas experts who studied the accident say that the men were extremely lucky to have survived.

One tonne of poison gas ammunition contains approximately 100 kilograms of pure poison. There is no one who knows how the tens of thousands of tonnes of poisonous chemicals contained in the dumped mustard gas, the nerve gas, and the phosphorous bombs will affect the Baltic Sea's environment.

### **Convention on Baltic Marine Environment Signed**

*LD0904233192 Moscow ITAR-TASS in English  
1812 GMT 9 Apr 92*

[By ITAR-TASS correspondent Aleksandr Surikov]

[Text] Helsinki, April 9—The signing of the new text of the Convention on Marine Environment Protection in the Baltic was the outcome of a one-day diplomatic conference on the Baltic environment that ended in Helsinki on Thursday. The renewal of this international document signed in 1974 was needed to bring it into accord with contemporary notions of how to oppose environmental pollution most effectively. The application of the convention has been expanded considerably for this purpose. It now comprises marine areas and inner reservoirs of the Baltic basin. The text was supplemented with a number of provisions related to the procedure of notifications and consultations in case of ecological accidents, assessment of the impact on the environment of some or other factors, the information exchange, etc. Amendments have been made enabling international integrational-economic organisations to join the convention.

The convention was signed by representatives of nine countries—Denmark, Germany, Latvia, Lithuania, Poland, Russia, Finland, Sweden and Estonia. Representatives of Norway, Czechoslovakia, Ukraine, the Economic Community, a number of international financial institutions and intergovernmental and non-governmental organisations also took part. The conference also adopted a declaration and joint programme of action for the protection of the marine environment of the Baltic. The documents define the principles, strategy and priorities of long-term conservation measures in the region.

This is a very important day for the future cooperation of environmentalists in the Baltic region, Harald Adam-Velner of Estonia, chairman of the Commission for Marine Environment Protection of the Baltic, told ITAR-TASS. The convention will have more work since it now comprises not only the sea but also adjacent areas, he said. The programme mentions 132 districts with unfavourable ecological situation. The implementation of the programme till the year 2012 will cost 18 billion ecu.

### **Bilateral Conference Endorses Heightened U.S.-Japanese Cooperation**

*OW1104131792 Tokyo KYODO in English 1253 GMT  
11 Apr 92*

[Text] Kyoto, April 11 (KYODO)—Japanese and U.S. business and political leaders agreed Saturday to develop a global satellite system to prevent natural disasters and preserve the environment, Japanese sources said. Participants at a bilateral political and economic conference in Kyoto agreed to work with the governments of both countries to promote research and development of such a satellite, the sources said.

Bilateral relations, support for the former Soviet Union, and preservation of global environment were among topics discussed at the opening session of the Japan-U.S. Leadership Council, a forum for discussion of global issues by the two countries' political and business leaders, the sources said.

Former Prime Minister Toshiki Kaifu, in a keynote speech, urged the two countries to join in extending financial support for developing nations. He also called for cooperation between Japan and the United States to support former Soviet republics. Kaifu said the two countries also can play an important role in preserving the global environment.

Former U.S. Secretary of Defense Frank Carlucci expressed concern over the possible flow of nuclear technology out of the former Soviet Union, the sources said. Carlucci, defense secretary from 1987 to 1989, urged both countries to provide all-out support for moves toward democracy in the former Soviet States.

Sen. Malcolm Wallop called on Japan and the United States to deal discretely with bilateral problems, saying sensational reports of such issues would worsen relations between the two countries.

Earlier in Saturday's session, U.S. representatives called for strong leadership from Japan to deal with trade and economic issues, Japanese sources said. James Jones, chairman and chief executive officer of the American Stock Exchange, said Japan's lack of leadership and the obstinate stance taken by France are hindering progress in the ongoing Uruguay Round of multilateral trade negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT).

On persistent Japan-bashing in the U.S., former Under Secretary of State Joseph Sisco said conventional wisdom should return after the presidential election in November, the source said.

Former U.S. President Jimmy Carter was scheduled to speak on the Japan-U.S. partnership at the closing session Sunday.

The council was established in 1990 and is cosponsored by the Center of Strategic and International Studies, an independent and bipartisan U.S. research institute, and



the Kansai Economic Research Center. Former leaders of both countries were invited to the two-day session.

### **Kuala Lumpur Declaration on Environment**

*BK0405124992 Kuala Lumpur NEW STRAITS TIMES in English 30 Apr 92 p 4*

[Apparent full text of the Kuala Lumpur Declaration on Environment and Development]

[Text] We, the Ministers from 55 developing countries met in Kuala Lumpur at the invitation of the Government of Malaysia, from April 26 to 29, 1992, at the second ministerial conference of developing countries on environment and development. The Kuala Lumpur conference, which had its initiation in New Delhi, India, in April 1990, is a follow-up to the first ministerial conference held in Beijing in June 1991. The Kuala Lumpur conference was also attended by observers from 11 developed countries, 10 international organisations, and nine nongovernmental organisations.

We exchanged views on the United Nations Conference on Environment and Development (UNCED) process, which started in 1989 with the United Nations General Assembly (UNGA) resolution 44/228, in the light of the results of the fourth substantive session of the preparatory committee of UNCED held in New York from March 2 to April 3, 1992. To that effect, we reaffirm the will and the determination of our governments to ensure that the Rio conference fully and clearly achieves in concrete terms, the provisions contained in the relevant general assembly resolutions notably UNGA resolution 44/228. In this context, the discussions centred on efforts to address important outstanding issues, with a view to finding solutions for them at UNCED scheduled at Rio de Janeiro, Brazil, from June 3 to 14, 1992.

While noting that progress was made in a number of areas at the final substantive session of the preparatory committee, we express our serious concerns at the lack of progress on a few key issues, particularly financial resources and mechanisms.

UNCED is of historic importance and provides the occasion at the highest levels of government to address environment and development in an integrated, comprehensive and balanced manner for the benefit of both present and future generations. We call for a new global partnership based on respect for sovereignty and the principles of equity and equality among states for the achievement of sustainable development, taking into account the main responsibility of developed countries for the deterioration of the environment, and the need for sustained economic growth and development of developing countries.

Development is a fundamental right of all peoples and countries. An environmentally sound planet should correspond to a socially and economically just world. An environmentally sound development, and the creation of a supportive international economic environment to

achieve this objective, including transfer of new and additional financial resources to developing countries, through distinct and specific mechanisms which are transparent, accountable and with equal representation in decision making, and modalities for transfer of environmentally sound technology, must be at the centre of the international agenda. In this regard, recognising the importance of international trade to all countries and the need for far-reaching reforms in international economic relations, we called on the developed countries to ensure without further delay a balanced, meaningful and satisfactory conclusion of the Uruguay Round of multilateral trade negotiations. We further emphasise that developed countries should not attempt to impose unilateral restrictions on international trade, in particular on natural resource-based and other related products on environmental grounds.

We further underline, in the context of attaining sustainable development, the need for the urgent conclusion and implementation of internationally supported measures to enhance and stabilise commodity prices, including commodity diversification, processing and development.

We reiterate that for the new global partnership to be meaningful, developing countries must have the resources to participate effectively. We also underline the urgent need to eradicate poverty and to guarantee sustained growth in both economic and environmental terms.

We stress that sustainable development makes it incumbent on developed countries to take major steps to transform their production, consumption and distribution patterns towards environmentally sound development. For the developing countries, sustainable development implies the right to development with due regard to the ecological processes. In order for the developing countries to achieve sustainable development, developed countries should adhere to a new concept of global partnership.

On the basis of the foregoing, and reaffirming the principles and objectives of the first ministerial conference of developing countries on environment and development held at Beijing, we agreed on the following positions on the core issues of special importance to developing countries to be taken up at the Rio conference:

### **Rio Declaration on Environment and Development.**

We note the progress made at the fourth substantive session of the preparatory committee in regard to the elaboration of the Rio declaration on environment and development as reflected in the chairman's draft text transmitted for further consideration and finalisation at the Rio conference. Recalling the reservations made, including those by developing countries, we agree that steps need to be taken to further develop the text in line with UNGA resolution 44/228.

**Agenda 21.**

We note the progress made at the last preparatory committee meeting in the identification of specific objectives, programmes and activities of Agenda 21 in a number of areas, including the recognition of the need for international efforts to address the serious problem of desertification and drought. We further reaffirm our willingness to continue participating in a constructive attitude in the issues yet to be resolved. We are also of the view that the programmes must support national priorities, must form an integrated package, and should not be used as a new form of conditionality in access to development support or any attempt to review national policies or strategies. We believe that agreement on the implementation of Agenda 21 programmes will depend on the availability of adequate, new and additional financial resources, and the transfer of environmentally sound technology to them on preferential and concessional terms.

**Financial Resources.**

We reaffirm the position which was presented by the Group of 77 and China at the fourth substantive session of the preparatory committee for UNCED.

As regard the means of implementation, we are of the view that new and additional funding should be the basis of an evolving partnership leading progressively towards the goal of sustainable development in both developing and developed countries. This funding should be provided in addition to, and separate from, the official development assistance (ODA) target commitments by the developed countries. A specific and separate fund for the implementation of Agenda 21 should be established. Predictability in the flow of funds should be ensured by assessed contributions from developed countries. Developing countries could contribute on a voluntary basis. The governance of the fund should include the following criteria:

- (a) it should be transparent;
- (b) it should be democratic in nature, with an equal voice for all parties in setting project eligibility criteria, project selection, and the authority to release funds, enabling an equitable balance between developed and developing countries;
- (c) it should provide access and disbursement to all developing countries without any conditionality; and,
- (d) it should provide for funding of activities according to the priorities and needs of the developing countries, taking into account Agenda 21.

All possibilities can be explored in regard to location or locations of the fund and its administrative and operational activities in the light of the above criteria. In addition, existing mechanisms governed by the criteria defined above could also be utilised as appropriate, in order to optimise provision of substantial grants or concessional resources for the implementation of

Agenda 21. In the follow-up after UNCED, there should be provisions for the effective monitoring of the financing of Agenda 21 and the mechanisms utilised for that purpose.

We welcome the initiative and note the Tokyo declaration on financing global environment and development.

**Transfer of Technology.**

We recognise the progress made at the fourth substantive session of the preparatory committee meeting on this subject, and strongly stress the need for assured access to, and transfer of, technology on preferential and concessional terms to developing countries, taking into consideration that intellectual property rights should not hinder the transfer of technology to developing countries.

We further stress that the concept of transfer of technology should not be diluted by referring to it as technology co-operation.

We emphasise that modalities should be immediately set up for the transfer of technology, including state-of-the-art technologies, to developing countries consistent with the relevant provisions of the UNGA resolution 44/228.

**Statement of Principles of Forests.**

We emphasise that forest ecosystems and resources are part of the national patrimony to be managed, conserved and developed by each country in accordance with its national plans and priorities in the exercise of its sovereign rights.

We call on all countries to give full support to the finalisation of a non legally-binding authoritative statement of principles on the management, conservation and development of all types of forests and its adoption at the Rio conference.

Considering that the statement of principles would provide an adequate and sound basis for the greening of the world, including through reforestation, afforestation, regeneration and sustainable use of forest resources, the negotiations of a legally-binding instrument on forest would not be required.

We also call on the developed countries to substantially increase their forest cover and to avoid unilateral measures, in the name of environmental protection, that constitute arbitrary or discriminatory action such as bans and restrictions on international trade of forest and forest-related products from the developing countries.

**Institutions.**

We stress the necessity for an early decision on an intergovernmental institutional arrangement for follow-up of Agenda 21 and other decisions of UNCED, in accordance with agreed sections of document A/CONF.151/PC/WG.III/L.31 rev.1, and further agreement to be achieved at the Rio conference.

The Rio conference could also recommend to the general assembly, provisions for financial and other means in the interim period between the Rio conference and the forty-seventh United Nations general assembly.

In addition, we agree that national and regional institutions should be strengthened in order to promote sustainable development.

#### **Proposed Convention on Climate Change and Biological Diversity**

We note the current stage of negotiations pertaining to the framework convention on climate change and the convention on biological diversity, and call for their early conclusion.

#### **Framework Convention on Climate Change**

We express deep concern at the lack of progress in the negotiations for the framework convention on climate change.

In this regard, and in accordance with UNGA resolution 46/169, urges the intergovernmental negotiating committee to expedite and successfully complete the negotiations as soon as possible, and to adopt the framework convention on climate change, containing appropriate commitments and any related legal instrument as may be agreed upon, in time for it to be opened for signature during the UNCED.

We stress the importance of these negotiations which should seriously address the adverse impact of climate change on developing countries including adaptation and mitigation measures.

This is especially relevant to small island states; states with low-lying coastal areas, which are vulnerable to climate change and its consequential sea-level rise; disaster-prone developing countries; and countries liable to drought and desertification.

We urge the developed countries to undertake meaningful and specific commitments on stabilisation and reduction of emissions of carbon dioxide and other greenhouse gases.

We further stress that developed countries should make commitments for the provision of financial resources and technology transfer to developing countries to enable them to adapt, mitigate, and combat climate change and its adverse effects.

We also stress that a fund should be established under this convention for its implementation.

We also express concern on the implications of the convention to developing countries whose economies are highly dependent on income generated from the production, processing, export, and/or the consumption of fossil fuels and associated energy-intensive products.

We reiterate that the implementation mechanisms of the convention should fully take into account the sovereign

rights of each country to determine its national policies, plans, and programmes for sustainable development.

#### **Convention on Biological Diversity**

We note the progress of the negotiations for a convention on biological diversity, and reaffirm the sovereign rights of states to use their biological and genetic resources.

We underline the need for the convention to establish mechanisms to give effect to the rights of countries which possess biological and genetic resources in situ conditions.

In this context, we reiterate that the convention on biological diversity must include legally-binding commitments to ensure the link between the access to the genetic material of developing countries and the transfer of biotechnology and research capabilities from developed countries, as well as sharing of commercial profits and products derived from the genetic material.

We recognise that developing countries are already taking measures to conserve and use in a sustainable manner their biological resources, and stress that those measures should be supported by the developed countries through the provision of financial and other resources.

We are of the view that providing for a 'global list of biogeographic areas of global importance' under the convention on biological diversity is not necessary.

We also stress that a fund should be established under this convention to make it possible for developing countries to fulfil their obligations under the convention.

#### **South-South Cooperation**

We recognise the need to enhance South-South cooperation on environment and development, by regular consultations at all levels and through exchange of environmentally sound scientific and technological knowledge on mutually acceptable terms, in the interest of accelerating development.

We agree that there should be regular consultations at ministerial, scientific, and other expert levels to encourage cooperation and monitor the decisions to be taken at the Rio conference.

#### **Delegates Review Kuala Lumpur Declaration on Environment**

*BK2904112992 Kuala Lumpur BERNAMA in English  
0733 GMT 29 Apr 92*

[Text] Kuala Lumpur, April 29 (OANA-BERNAMA)—Environment ministers and delegation heads from 55 developing countries ended their three-day meeting here Wednesday, having adopted a declaration to reflect their stand on issues they want to negotiate with the North during the earth summit in Brazil.

The meeting was closed by Malaysian Science, Technology, and Environment Minister Law Hieng Ding as chairman of the meeting, which adopted the "Kuala Lumpur Declaration" Tuesday, a day ahead of schedule.

The declaration contains the demands of the South countries for among other things more financial resources, specific and separate financial mechanisms, technology transfer, a non-legally binding convention on forest, and an intergovernmental institution to follow up the programs of the summit to clean up the planet earth.

This declaration, said Razali Ismail, the permanent representative to the United Nations, "was the maximum position of the South countries for negotiations with the rich nations at the summit."

"I'll be happy if we (the developing countries) can get anything above our bottom line," he said, without revealing what the bottom line is.

He said the original draft of the declaration, prepared by senior officials under his chairmanship, was less stringent than the one adopted. The final declaration was the fifth edition of the draft.

Razali, who has described the KL [Kuala Lumpur] meeting as an "important station" to the summit in Rio de Janeiro in June, said he would report back to the G-77, the umbrella group representing 129 developing countries, in New York on the outcome of the meeting here. China, which is not a member of the G-77, has taken the same position as the grouping on the Rio summit.

The KL meeting, endorsed by the G-77, was not just to rally the South for Rio, but more importantly, it was for the Third World to examine those "critical" issues for negotiation with the rich countries, he added.

However, several delegation heads of the 11 developed countries attending the KL meeting as observers, said they were looking at the declaration with some reservations.

Director of U.S. UNCED [United Nations Conference on Environment and Development], Ambassador Robert Ryan, said he believed the "strong stand" taken at the KL meeting would not hurt further negotiations between developing and developed countries.

He said 98 percent of the primary issues in Agenda 21, a global program for sustainable development into the 21st century, had been discussed at the preparatory committee meetings (Prepcom) to Rio, leaving only small outstanding issues.

However, he said Washington would maintain its stand of not favoring a separate fund to finance Agenda 21 other than using the existing mechanisms including the Global Environmental Facility (GEF).

Ryan said the U.S. would like to see a legally binding convention on forest after the Rio summit although the proposal to initiate the convention at the Prepcom meetings was turned down.

British Minister of State for the Environment David Maclean said the KL declaration had established the position of the developing countries.

"We can succeed at Rio if we can make some concessions and if we have sufficient goodwill," he added.

Personal representative of the Canadian prime minister, Arthur Campeau said the KL declaration was a basis for negotiations in Rio as it reflected the deep concern of the Third World on environment.

However, Campeau said there was still room for negotiations on the GEF as one of the mechanisms to finance Agenda 21, the programs to clean the global environment into the 21st century.

Razali said he had received feedback from the developed nations here that they had some reservations on the declaration in that there was no mention of the GEF, the existing mechanism, which the rich nations want to use to finance Agenda 21.

He said the South could accept the GEF, but it must first be made to be democratic in nature, transparent in management, and accessible to all countries.

### **Planning, Management Conference Urges Formation of Regional Association**

*LD2904091992 Tehran IRNA in English  
0648 GMT 29 Apr 92*

[Text] Tehran, April 29 (IRNA)—The second International Conference on Environment Planning and Management ended here Tuesday by issuing a resolution which called for establishment of a regional association by experts.

The two-day conference was attended by a number of Iranian environmentalists and experts from 19 foreign countries including China, Hong Kong and India. The experts discussed environmental issues including air pollution, industrial sewage and garbage.

The participants also called for formation of a regional association which among other things should hold a regional session every other year, arrange special seminars and conferences and also publish specialized magazines on environment.

In the closing session of the conference, Iran and India proposed offering short-term courses in regional countries to enable the experts to deal with environmental problems.

The first International Conference on Environment Planning and Management was held in India in 1990. Venue of the next conference which will be held in 1994 has not yet been decided. China, Hong Kong and India have proposed to host the forthcoming conference.

The participants of the conference will tour Iran's ancient city of Isfahan.



## REGIONAL AFFAIRS

### Southern African Drought Situation Analyzed

*MB0804083692 Johannesburg SAPA in English  
2339 GMT 7 Apr 92*

[Text] Cape Town, April 7 (SAPA)—Most of southern Africa is reeling in what is likely to become the most devastating drought of the century.

The drought has in its grip most of South Africa, southern Namibia, Botswana, Swaziland, Lesotho, all of Zimbabwe and Mozambique.

Destitute peasants in Zimbabwe are reported to be eating wild berries and pods to survive, and Namibian President Sam Nujoma has proposed slaughtering wildlife to provide meat for his people.

Stretches of the Limpopo River, which forms the Zimbabwe-South African border, have dried up with the river winding like a very wide dirt road for several kilometres.

In South Africa, at least two million people face starvation due to the drought, according to Operation Hunger head, Mrs. Ina Perlman.

Maize producing areas have been particularly hard hit, which has led to spiralling unemployment, poverty, hunger and high cost importation of food.

The worst hit areas are the Orange Free State, Transkei, the eastern Cape and the western and northern Transvaal, but most of the country is suffering from famine, according to Mrs. Perlman.

In the drought-ravaged eastern Cape farmers are being driven off their land due to lack of water, failure of crops and high interest rates.

Malnutrition among blacks had risen alarmingly because of the recession, said Mrs. Perlman, and only eight percent of rural blacks were self-sufficient.

She said 26 percent of all black deaths were children under the age of five, while squatter camps were springing up all over the [Orange] Free State and the northern Transvaal.

Mrs. Perlman blamed high unemployment and the retrenchment of almost 30,000 mineworkers for the increase in poverty and hunger in rural and urban areas.

Operation Hunger is presently feeding over two million people and the organisation is processing applications for food assistance for another 300,000.

Mrs. Perlman said although the government had given operation hunger R[and]10-million for food relief in March, the organisation needed R9-million a month to feed the starving masses.

Meanwhile Dr. Koos du Toit, chief economist for the South African Agricultural Union [SAAU], on Tuesday

said as many as 10,000 farmers in South Africa had "reached the end of the road" and would have to sell their farms.

Dr. Du Toit said the R1-billion budgeted for relief aid to farmers would not be enough and the SAAU was currently negotiating with the government for more funds.

Due to an almost total maize crop failure, South Africa would need to import at least four million [metric] tons, he said.

Describing the drought as the worst since the late 1940's, Dr. Du Toit said 100,000 farm labourers were likely to lose their jobs as farmers went bankrupt due to crop failures and stock losses.

He said the country had lost an estimated R3-billion in summer rainfall crops because of the drought and vegetable prices are expected to soar.

Cattle and sheep farmers, he said, were facing a difficult winter due to poor grazing and shortage of feed.

"Farmers are having to sell off their stock and are not getting good prices because there is a glut of meat on the market," he said.

He predicted the agricultural industry would suffer a loss of R20-billion this year.

Dr. Du Toit said the situation in Namibia was so severe that wild animals were being killed to provide food for inhabitants.

"This could have a negative effect on tourism which is one of their biggest resources," he said.

South Africa's Kruger Park National Park has also been hard hit by the drought and has seen visitors turning away from the worst hit areas because of the stench from dead animals, he said.

### ICDCS Summit Issues Communiqué

*AB1204185892 Ouagadougou Radiodiffusion Nationale du Burkina Radio in French 1900 GMT 11 Apr 92*

[Text] The 10th heads of state conference of the Permanent Interstate Committee for Drought Control in the Sahel [ICDCS] ended today in Ouagadougou. The ICDCS ended on a sound footing. The heads of state and government indeed decided to vigorously pursue the committee's long term redress and recovery plan. The meeting, which ended late morning, issued a communiqué. Jean- Baptiste Issifou has the details:

[Issifou] After a careful scrutiny, the ICDCS approved the conclusions of the report presented by the minister coordinator, particularly the rewording of the ICDCS mandate. On the institution's long term redress and recovery plan, the heads of state and government charged the minister coordinator with completing the measures initiated so as to bring about a restructuring and a concrete redress plan. The plan will be submitted

next November to an emergency council of ministers that will examine and adopt it.

Informed of the coming meeting of the Observatory of the Sahara and the Sahel, the Conference urged the Sahelian countries and the ICDCS to hold consultations to define a common stand and safeguard ICDCS goals, considered a model of regional cooperation.

On financial matters, the Conference expressed the firm determination of member states to pay up their outstanding contributions and settle subsequent dues regularly. It also recorded announced contributions toward the building of headquarters of the Executive Secretariat and the Sahel Institute.

The Conference unanimously elected Blaise Compaore chairman of the Heads of State Conference for the next two years and appointed Antonio Alberto do Rosario—Cape Verdian minister of rural development and fisheries—ICDCS minister coordinator. He succeeds his Burkinabe counterpart, whose term of office expired. In another development, the heads of state of the ICDCS member states, upon a request by the Cape Verdian president, decided to hold the next ordinary session in 1994 in Praia, Cape Verde.

Another development that marked this 10th ICDCS summit was the adoption of a declaration called the Ouagadougou Declaration. In this declaration, the ICDCS heads of state and government reaffirmed their firm determination to continue the fight against the effects of drought and desert encroachment. They hoped that the activities of the UN Conference on Environment and Development [UNCED] would be crowned with success and that it would adopt concrete measures and decisions that meet the aspirations of the Sahelian community. To this end, they urged the UNCED Secretariat to initiate a process aimed at drawing up for negotiation an international convention on drought and desertification control and requested that intergovernmental organizations, particularly the ICDCS, be involved in the implementation of measures under the Agenda 21 program and the UNCED.

While authorizing President Blaise Compaore, incoming ICDCS chairman, to convey to the delegations at the Rio de Janeiro Earth summit the concerns and priorities of Sahelian communities in the area of environment and lasting development, the 10th ICDCS summit conference urged the international community to sustain and strengthen its support to the ICDCS. Finally, it should be noted that at the end of their deliberations, the heads of state and government approved a vote of thanks, expressing gratitude to the president and people of Burkina Faso for the reception and hospitality accorded all the delegations at the 10th conference.

[Paris AFP in French at 2207 GMT on 8 April reports that "Western countries and the UN have demanded a 'complete restructuring of the entire ICDCS system,' it was learned today in Ouagadougou. Germany, Canada, the EEC, the United States, France, Italy, Japan, the

Netherlands, and the UN have expressed their disappointment at the lack of a recovery plan for the ICDCS and 'wonder if their support can continue without there being any guarantees' of such a restructuring taking place."

[AFP continues to say: "The ICDCS donors are seeking assurances that all the necessary priority will be given to the recovery process which should, according to them, be initiated immediately, and say they are prepared to participate fully after the launching of the recovery process which, they maintain, must remain essentially a Sahelian affair." The ICDCS ministers on 7 April "adopted a plan that appears to lay greater emphasis on rehabilitating the ICDCS finances (a deficit of nearly 600 million CFA francs arising from delays in member arrears) rather than on revamping the organization as demanded by the West."]

## MOZAMBIQUE

### Swedish Organization To Invest in Cabo Delgado Reforestation Project

92WN0351B Maputo NOTICIAS in Portuguese  
3 Feb 92 p 1

[Text] ARO, a Swedish nongovernmental organization, is going to invest nearly 500 million meticals to carry out the third phase of the reforestation pilot project in Cabo Delgado, an undertaking that also has the monetary coparticipation of the Mozambican government through its Agrarian Promotion Fund.

Forestry engineer Vitorino Xavier, who is in charge of this project, revealed to our reporter in Pemba that the third phase of this undertaking will begin this year and will last until 1995.

According to him, throughout this period greater priority will be given to activities connected to forestry, forestry extension services, applied research, and the providing of services to institutions interested in formulating and carrying out tree-planting projects and programs in that province.

In the area of silviculture, according to Engineer Xavier, greater attention will be paid to the production, in suitable greenhouses, of 420,000 plants of various qualities, and to the planting of 180 hectares of forest for the production of charcoal and firewood, in addition to conservation work dealing with soil and water.

On the same occasion, Vitorino Xavier further raised the possibility of furnishing 45,000 plants to third parties for the tree-planting programs of both community and private properties in the province of Cabo Delgado, at the same time that testing is scheduled to be done on some species for the reforestation of different ecological areas, in addition to research work on alternatives and on the restoration of damaged native forests.

According to the source, to complement these activities, which are considered to have a high priority, small tree-planting projects will be drawn up for some nongovernmental organizations, lumber companies, and interested private citizens, "once the thrust of the initiatives to protect the environment is to open a wide enough service market at the level of the province of Cabo Delgado," the source stated.

Our source in Pemba has learned that the beneficiaries of this third phase of the Cabo Delgado reforestation pilot project will be the people of the provincial capital and its suburbs, especially with regard to their supply of firewood for fuel, as well as the farmers of the districts of Ibo, Montepuez, Mueda, and Macimboa da Praia—all of these within the scope of the rural extension service.

However, and as Engineer Xavier stated, even with the current plantings and those that are scheduled to be carried out, the Cabo Delgado reforestation pilot project will not be able to bear its essential fruits during this phase and, therefore, "will not be able to operate as an economically viable productive unit."

The first two phases of this project have already been completed, and concerning their results, Vitorino Xavier said that there have been some technical problems in carrying them out, a fact that has had a negative effect on the work which was initially planned.

## NAMIBIA

### Nujoma Declares 'National Emergency' Over Drought

MB0304101592 Johannesburg SAPA in English  
0910 GMT 3 Apr 92

[Text] Windhoek, April 3 (SAPA)—Namibian President Sam Nujoma has declared a national emergency in view of the drought affecting the country, it was reported on Friday.

Addressing a press conference at his official residence, State House, Mr. Nujoma announced measures to deal with what he called "a crisis of unprecedented proportions."

He told the gathering, which included the Cabinet and diplomats, that government's immediate aims were to supply food to vulnerable groups, ensure a water supply in all areas and sustain livestock production.

In addition to a Cabinet Drought Committee and a National Drought Committee created last month, Mr. Nujoma announced the formation of another cabinet committee, chaired by the Minister of Local Government and Housing Dr Libertine Amathila, which will be responsible for preventing malnutrition among children.

Calling on the international community to "help this young republic in its immediate crisis situation," Mr. Nujoma said more than R[and]28-million had been set

aside for an emergency water provision scheme, which included the drilling of bore holes, provision of pipelines and water tankers to ensure water provision to critical areas.

Some areas of Damaraland in the Western Region and Owambo in the north were reported to be virtually without water some weeks ago.

Other measures announced include:

- a task force comprising various ministries and UN agencies;
- an emergency marketing scheme to help farmers sell animals and relieve grazing pressure to ensure the survival of breeding stock;
- use of game, under supervision of the wildlife, nature conservation and tourism ministry, to provide food;
- use of marine resources under supervision of the fisheries ministry;
- large-scale food imports and distribution to communities in need;
- possible water restriction in urban areas;
- the transfer of the department of water affairs to the Office of the President;
- an appeal to wealthy Namibians to donate meat to prevent malnutrition among children; and
- an appeal to farmers and business for assistance.

Mr Nujoma said the emergency had arisen due to widespread crop losses.

Maize production was limited to 17,000 tons of white and 1,850 tons of yellow maize, which fell far short of envisaged production and the requirements of the country.

Large quantities of cereals would have to be imported to feed people and livestock, he added.

Mr. Nujoma said the drought was the worst in 30 years, and probably since 1932, when there was a complete crop failure.

### Minister Says Fishing Policies Beginning To Show Results

MB0904122592 Johannesburg SAPA in English  
1122 GMT 9 Apr 92

[Text] Windhoek April 9 (SAPA)—Namibia's fishing policies over the past two years are beginning to bear fruit with hake stocks showing good signs of recovery, Fisheries and Marine Resources Minister Helmut Angula said in Windhoek on Thursday.

In a speech read on his behalf at the 17th Southern African Development Coordination Conference's

[SADCC] fisheries and wildlife consultative meeting, Mr. Angula said 1991 fish stock surveys showed a clear growth of fishable hake biomass.

"By May, 1992, the fishable hake stock will probably have exceeded 400,000 [metric] tons, while in 1990, it was recorded at only 200,000 [metric] tons," Mr. Angula said, adding there was little reason to relax conservation measures.

A sustained 300,000 [metric] ton annual hake catch, roughly estimated to be Namibia's long-term sustainable hake yield, needed a fishable biomass of over 1000,000 [metric] tons.

Mr. Angula asked delegates to come forward with proposals on how the fisheries and wildlife sector could contain the calamitous drought facing the region, particularly on feeding most vulnerable groups.

Each of the 10 SADCC countries co-ordinates the activities of a particular sector in the southern African 10-member state regional grouping.

Namibia was allocated the marine fisheries sector at last year's SADCC council of ministers meeting, while Malawi continues co-ordinating the inland fisheries sector.

## SOUTH AFRICA

### CITES Gives Go Ahead on Sale of Crocodile Products

*MB1004151492 Johannesburg Radio RSA in English  
1100 GMT 10 Apr 92*

[Text] The Convention on International Trade in Endangered Species, CITES, has given the go ahead for South Africa to increase its exports of crocodile products. The quota for South African leopards has also been increased from 50 to 75 animals per year. However, the CITES conference held in Japan did not relax the ban on the trade in African elephants and white rhino.

The South African environment minister, Mr. Louis Pienaar, said in reaction today that he was still of the opinion that both the elephant and rhino population were locally well managed, and were therefore not endangered. He said he regretted the CITES decision but would respect it.



### **Joint Venture With Germany on Environmental Protection**

HK1304022792 Beijing CHINA DAILY in English  
13 Apr 92 p 2

[By staff reporter Wang Xiangwei: "Joint Ventures To Clean Tianjin Environment"]

[Text] The Otto Group, a major German conglomerate specializing in environmental protection, is trying to cash in on China's increased emphasis on environmental protection.

Officials from two Otto companies and Hanse Trading GMBH, a German trade company specializing in Sino-German trade, signed letters of intent with the Tianjin Environmental Protection Agency (TEPA) over the weekend in Beijing to set up two joint ventures in Tianjin. Hanse acted as an intermediary to set up the deal.

"China is a logical follow-up of our group's active four-and-half-years in Taiwan, Hong Kong, and Singapore," said Lucian Rosler, export manager of Gebr Otto KG.

Chinese officials were equally enthusiastic about the deals. "China has already designated environmental protection as one of the country's fundamental priorities, but we lack the financial resources and technology to develop our environmental protection industry," said Zhou Jing, deputy director of the Tianjin Environmental Protection Agency.

"The establishment of joint ventures, which is rare in such a field in China, will provide an exemplary model for further co-operation with foreign countries in this aspect," said Zhou.

German and Chinese officials said that they expect the deals to be signed later this year and the joint ventures established next year.

According to the preliminary agreements, Gebr Otts KG aims to set up a factory in Tianjin to produce plastic garbage bins and trucks with Otto technologies.

Otto Oeko-Tech, another Otto company, plans to set up a joint venture with TEPA to manufacture products for waste water treatment and air cleaning.

### **Premier Stresses Importance of Rio Summit; Cooperation With Germany**

OW1304141592 Beijing XINHUA in English  
1356 GMT 13 Apr 92

[Text] Beijing, April 13 (XINHUA)—Chinese Premier Li Peng said here today that China attaches great importance to the forthcoming United Nations Conference on the Environment and Development (UNCED) and will join others in working hard to make the conference a complete success.

Li made these remarks during a meeting with German Federal Minister of Environment Klaus Toepfer and his party this afternoon.

Toepfer handed over to Li Peng a letter from German Federal Chancellor Helmut Kohl.

Toepfer said that the German Federal Government attaches great importance to the UNCED to be held in Brazil.

In view of China's significant weight in preparing the UNCED, he noted, the German Government is willing to strengthen cooperation with China so as to ensure the success of the conference.

Li said China hopes this conference will combine the two issues of environmental protection and development and map out effective programs and measures in this regard.

"Environmental protection is a basic state policy of China," he went on. "We have always stressed the importance of this endeavor while seeking economic and social development."

Li also said that with regard to the developing countries, environmental protection is important, but the task of development is more important. He said he hoped the developed countries would understand this point and bear more responsibilities and obligations.

He said China is willing to cultivate long-term and stable friendship and cooperation with Germany. This not only involves economic and trade ties, but also covers cooperation in such fields as environmental and natural protection and nuclear safety, he added.

### **Draft Rio Declaration Seen as 'Good Basis' for Further Consideration**

OW2804065692 Beijing XINHUA in English  
0630 GMT 28 Apr 92

[Text] Kuala Lumpur, April 28 (XINHUA)—The draft Rio Declaration in the current form can provide a good basis for further consideration on the issue of environment and development despite its drawbacks, according to Deng Nan, head of the Chinese delegation attending the second ministerial conference of developing countries here.

"At the same time, there is a need for its improvement in accordance with the spirit and principles contained in the Resolution 44/228 of the United Nations General Assembly," she told this morning's session.

The draft Rio Declaration, which was put forward by G-77 countries and China at the fourth meeting of the preparatory committee of the United Nations Conference on Environment and Development (UNCED) and underwent a series of deliberations, is to be presented to the Earth Summit in June in Rio de Janeiro.

Some basic principles the developing countries have always advocated, such as sovereignty, the right to development, the integration of environment protection and economic development, the special situation and needs of the developing countries and the elimination of poverty, have been included in the text, she said.

But, it has a "truly serious shortcoming," in that there are vague formulations on the main responsibility of the developed countries and on the issues of financial resources and the technology transfer, she noted, saying which are the "basis, and indeed the very soul, for future international cooperation in the field of environment and development."

"Without financial and technological guarantee, the achievement of sustainable development and the new global partnership will only remain nice but empty phrases," she said, stressing "this cannot but cause serious concern on our part."

Deng, who is vice minister of science, technology and environment, appealed to the developing countries to be united and to speak in one voice.

"The Chinese delegation sincerely hope that the developing countries will attach special importance to their common interests to continue, and further strengthen, our unity and cooperation, in order to ensure that the UNCED achieves the success expected of it," she said.

## REGIONAL AFFAIRS

### **Spread of Air Pollution in Northeast Asia Viewed** *SK1104090192 Seoul YONHAP in English 0442 GMT* *11 Apr 92*

[Text] Seoul, April 11 (YONHAP)—Air pollutants know no national borders, and particles and sulfur dioxide are spreading throughout Northeast Asia.

Use of such fossil fuels as petroleum and coal is expanding rapidly in China due to industrialization, and pollutants discharged by Chinese industrial complexes are crossing the Yellow Sea to Korea, Dr. Chong Yong-sung of the Environmental Science Institute of the Korea National University of Education told a seminar Friday.

He said pollutants could travel up to 10,000 kilometers riding on the winds, reaching Korea from China in 10 to 48 hours.

Major pollutants include sulfur dioxide and nitrogen dioxide, which turn into sulfates, nitrates or ozone if they land in the sea, he said.

China consumed some 1.1 billion tons of fossil fuel in 1990. Korea used 100 million tons and Japan 400 million tons. In the Far East alone, some 1.6 billion tons are consumed annually, discharging 30 million tons of sulfuric substance, 100 tons of particles, 5 billion tons of carbon dioxide and a considerable amount of nitrogen oxide, he said.

In China, consumption of fossil fuel rose 20-fold during the last four decades and the amount of pollutants is expected to surge markedly with a 10-percent annual growth in energy consumption.

Chong said acid rain was one of the most serious environmental problems in Northeast Asia. Acid rain was detected frequently in China in areas south of Shandong Province. In Japan and Korea, an average acidity of pH 4.7 and 5.4 was detected in rain.

Sandy dust from China is causing health and environmental concerns in Korea, which is doused in 200,000 tons to 500,000 tons each year between mid-April and early May.

Comparing monthly average sulfur dioxide concentrations in Korea and Japan, Chong said the Korean averages on the Taean peninsula on the west coast were higher than those measured by the Niyori observatory near Sendai by 2 to 6 parts per million.

## AUSTRALIA

### **Nuclear Waste Research Agreement With China Reported**

*BK0204044692 Hong Kong AFP in English 0406 GMT*  
*2 Apr 92*

[Text] Sydney, April 2 (AFP)—China has agreed to help research and develop an Australian technique for sealing radioactive waste in man-made rock, government scientists said here Thursday.

"Initially we will assist them to develop Synroc," said Adam Jostesons, director of the advanced materials programme for the Australian Nuclear Science and Technology Organisation (ANSTO).

"The benefit to us is that we will get access to radioactive waste, since Australia does not have a nuclear energy program."

Synroc is an artificial combination of naturally occurring rocks which are known to be impervious to radioactivity.

ANSTO has spent about 25 million dollars (19 million U.S.) over 12 years to develop Synroc, which it believes is more reliable than the glass containers used in countries with commercial nuclear programmes.

The commonest nuclear fuel is uranium, one of the few naturally occurring radioactive substances.

"Nature has contained this material in rocks for thousands, if not millions, of years," ANSTO spokesman Chris Tweedie explained, "so we thought why not look at how it does that and try to simulate it by man-made methods."

A typical nuclear power station generating 1,000 megawatts of electricity produces 30 tonnes of spent fuel yearly. Once uranium and plutonium have been recovered for recycling in reactors, about one tonne of high-level waste is left.

The waste requires between 100,000 and a million years to decay to acceptable levels of radioactivity, and the traditional way of disposing of it is to bury it in 40-gallon (200-litre) containers made of borosilicate—glass containing huge amounts of lead.

"Radioactive materials generate heat, and there are fears that borosilicate may develop cracks and leach contaminated water into the earth," Tweedie said.

"The process may take place over centuries, but we need to lock up radioactive byproducts for hundreds of thousands of years."

Documents published by ANSTO assert that Synroc, which is made from the oxides of titanium, zirconium, calcium, barium and aluminium, is "at least 1,000 times more resistant to leaching than borosilicate" in boiling water at 100 degrees Celsius.

The advantage increases at higher temperatures, the documents say, and "glass flakes and cracks badly after a few days' exposure to high-pressure water at 300 degrees Celsius."

The waste which ANTISO will be using in experiments in China "comes from defence programs," Jostesons said.

"It is not dissimilar to reactor waste but is fairly diluted in fission materials."

Jostesons described the agreement with China as "just the beginnings of our cooperation" and said it provided for "one-man exchanges."

ANTISO is already collaborating on similar research programs in Japan, Italy and Britain.

### **Greenpeace Australia Calls for Permanent Nuclear Test Ban**

*BK1004161092 Hong Kong AFP in English 0808 GMT 10 Apr 92*

[Text] April 10 (AFP)—Greenpeace Australia called here Friday on Prime Minister Paul Keating to use France's decision to suspend nuclear testing as a springboard for a permanent ban on testing worldwide.

Greenpeace said in a statement that Australia should initiate talks with New Zealand and France and launch a joint diplomatic plan to end testing.

"Australia has proven in the past that it is capable of playing a key role in the achievement of global environment goals," Greenpeace executive director Paul Gilding said.

In a letter to Keating and acting foreign minister John Kerin, Greenpeace said the French announcement presented Australia with a rare chance to advance the government's nuclear disarmament agenda.

It told the government that the opportunities and circumstances arising from the French moratorium on nuclear testing were almost identical to those faced by Australia when it began its diplomatic push for the protection of Antarctica.

The letter said the government should bring together nations opposed to nuclear testing to press the United States, China and Britain to halt their test programs.

Meanwhile in Noumea, the pro-independence movement hailed the French move as "an important advance."

In a communique issued there the Kanak Socialist National Liberation Front (FLNKS) said its politburo "rejoices in the decision of the (new French Premier Pierre) Bérégovoy government to suspend nuclear testing at Mururoa Atoll" in French Polynesia.

For the FLNKS "whose anti-nuclear stance is well known it is an important advance for all the countries of

the (27-member) South Pacific Forum and all progressive movements which consistently have demanded for many years a total and definitive ban of all nuclear testing in the Pacific," it said.

In Port Vila, Vanuatu Prime Minister Maxime Carlot sent a congratulatory message to Bérégovoy, state-run Radio Vanuatu reported Friday.

In his message, Carlot added that plans were under way for a Vanuatu delegation to visit Paris.

But during his official tour last week in New Zealand, Carlot had declared that if his government wanted to talk about nuclear testing, he would first discuss the matter with France.

## **INDONESIA**

### **Indonesia 'Not Satisfied' With New York Environment Meeting**

*BK1304104292 Jakarta ANTARA in English 0954 GMT 13 Apr 92*

[Text] Jakarta, Apr 14 (ANTARA)—Indonesia is not satisfied with the results of the meeting of environmental experts in New York recently, State Minister for Population Affairs and the Environment Emil Salim said here on Monday.

"The results are not so good because only 10 percent of the total problems have been dealt with," he said after meeting President Suharto.

The meeting in New York from March 5 to April 3 was held in preparation for the world conference scheduled in Brazil on June 3-15 this year.

Salim said a variety of forums would come up following the unsuccessful meeting in New York referring to meetings in Tokyo on April 15-18 initiated by former Prime Minister Takeshita, in Norway on April 22-25 held by the country's prime minister, and in Malaysia on April 26-29, which is to be attended by the developing countries.

"Due to the situation I paid a call on the head of state to ask for an advice regarding the stand Indonesia would take," he said.

Salim said President Suharto had told him to work together with other developing countries for fostering openness and larger international market extension for products from the countries concerned to increase their income so that developing countries could carry out their development efforts without necessarily damaging the environment.

President Suharto has also expressed the need for intensification of technology transfer and investment promotion especially the one which will boost exports and tourism.

"The (developing) countries also need to work to reduce their foreign debt repayment conditions," Salim said quoting the head of state.

Total debts of the developing countries at present reach US \$1.3 trillion, he added.

Another thing which needs to be struggled for is increasing soft loans for environmental repairs and maintenance from the developed countries, Salim said.

Total assistance from the developed countries is recorded at US \$ 55 billion a year while the need is reaching US \$125 billion, he added.

President Suharto said if trade, investment, and technology transfer could be increased the results could encompass the assistance, according to Salim.

## JAPAN

### Ex-Premier Takeshita on Japan's Role in Global Environment

OW3103095592 Tokyo TOKYO SHIMBUN  
in Japanese 28 Mar 92 Morning Edition p 1

[Report on interview with former Prime Minister Takeshita by a SANKEI SHIMBUN reporter on 27 March; place not given]

[Text] A SANKEI SHIMBUN reporter interviewed former Prime Minister Takeshita, honorary chairman of the Wisemen's Conference on Global Environment, on 27 March. Regarding Japan's financial burden sharing for the preservation of world environment which is expected to be high on the agenda of the UN Environment Development Conference scheduled to be held in June, the former prime minister made clear that Japan would share its financial burden in proportion to the ratio of its contribution to the International Development Association (IDA). On ways of securing financial sources for the preservation of global environment, Mr. Takeshita showed his enthusiasm for establishing a fund, saying that "I hope to create a global environment fund with its financial resources raised from global use fees [global air and sea transportation fees] and contributions by industrialized nations."

Mr. Takeshita will host the Wisemen's Conference on Global Environment scheduled to be held in Tokyo in April. In this connection, he said that Japan would play a key role in tackling global environmental problems. In this way, he said that Japan's role in tackling the environmental problems would be a pillar of Japan's contributions to the international community. He also indicated his strong enthusiasm for involving himself in tackling the global environmental problems.

On Japan's financial cooperation, the former prime minister said: "The United States shares 25 percent of the total contributions by member nations to the United Nations and I think that Japan should share this ratio for

the fund. However, what I am thinking is that Japan should make contribution to the fund as it does to the IDA which is also called the second World Bank. In this way, the former prime minister made clear that Japan would decide on its burden sharing for the fund based on the ratio of its contribution to the IDA.

The share of Japan's contribution to the IDA stands at 16.5 percent on the average for three years from 1989 to 1991.

The secretariat of the global summit estimates the cost for the preservation of global environment by the year 2000 at \$125 billion every year, and of this amount, it plans to raise approximately \$70 billion from new financial resources. The government is of the opinion that given the financial situation of the industrialized nations, it would be difficult for them to share \$70 billion and the question of how much Japan should share remains undecided.

Discussing how the government should secure financial resources for Japan's burden sharing for the fund, the former prime minister said: "It is necessary to win the people's understanding. It took 10 years for the government to put a new consumption tax into force and it might be necessary to introduce a new tax to secure the financial resources." In this way, the former prime minister hinted at the need to introduce a new tax in the future for Japan's burden sharing for the fund.

On desirable ways to help developing nations tackle their environmental problems, Mr. Takeshita indicated: "Instead of creating a new international organization which has been advocated by developing nations, efforts should be made to strengthen the Global Environmental Facility (GEF) which is not being operated jointly by the World Bank, the UN Environment Program (UNEP), and the UN Development Program (UNDP). In the interview, Mr. Takeshita showed his enthusiasm for enacting a law on the preservation of global environment, saying that "it is necessary to enact a law like the global environment law."

### Government Launches Major Study of Proposed Environment Tax

OW0604085992 Tokyo KYODO in English 0837 GMT  
6 Apr 92

[Text] Tokyo, April 6 (KYODO)—The government has launched a full-scale study on a proposed fuel tax to generate funds to help save the global environment, officials said Monday.

The study, undertaken by the Finance Ministry and the Environmental Agency, focuses on the possibility of imposing a levy on oil products, such as gasoline and light oil, the officials said.

They said the proposed tax may be replaced with a tax increase on tobacco or liquor, as some government

officials are concerned over the impact of a fuel tax on domestic industrial activity.

Money raised through the levy would be used for cutting emissions of carbon dioxide, believed to contribute to global warming, known as greenhouse effect, and for protecting the environment in developing countries, the officials said.

The Finance Ministry is taking a cautious approach on the issue because its proposal for an international contribution tax failed to materialize last year, the officials said.

The Environmental Agency advocates a levy similar to one introduced in such Scandinavian countries as Sweden and Norway.

The European Community also plans to introduce a tax next March aimed at keeping carbon dioxide emissions at 1990 levels through the end of this century, the officials said.

The United Nations conference on environment and development, which will organize the earth summit in Brazil in June, estimates the global cost of environmental preservation at 125 billion dollars annually from 1993 to 2000.

Under that estimate, industrialized nations would have to set aside an additional 70 billion dollars a year in official development aid to developing countries, the officials said.

The officials said Japan may be asked to put up about 7 billion dollars a year, some 10 percent of the estimated cost.

The government's revenue from taxes imposed on fuel is estimated at 2,168 billion yen in fiscal 1992.

If the government tries to raise the required amount from fuel tax revenue, it would have to raise the tax rates in fuel to nearly 50 percent, the officials said.

#### **Decision on Environment Tax Postponed Until After Earth Summit**

*OW1504103092 Tokyo KYODO in English 0958 GMT 15 Apr 92*

[Text] Tokyo, April 15 (KYODO)—Japan will postpone deciding on whether to introduce an environment tax until after the Earth Summit in Rio de Janeiro in June, a government spokesman said Wednesday.

Deputy Chief Cabinet Secretary Noboru Ishihara acknowledged that government ministries are proceeding with independent feasibility studies on an environment tax, but noted that Prime Minister Kiichi Miyazawa has not issued any directives.

Miyazawa, who faces his first test in nationwide polls when elections for the House of Councillors are held in July, expressed reluctance at a news conference Monday to introduce new taxes.

Ishihara indicated that Japan would delay decision-making on finding new funds for the global environment until after burden-sharing between industrialized and developing nations is discussed at the summit.

Ishihara's remarks came as an international group of former heads of government and other prominent leaders convened here to discuss ways to raise massive funds needed to implement environmental programs to be agreed to at the June 3-14 Earth Summit.

Organizers of the Earth Summit, formally called the United Nations Conference on Environment and Development, estimate that 70 billion dollars will be needed annually to help developing countries attack environmental problems.

The money is in addition to an annual 55 billion dollars already provided by financial aid programs.

The Finance Ministry and the Environment Agency are currently studying new tax schemes to fund reduced emissions of carbon dioxide, a key contributor to global warming, and environmental protection programs in developing countries.

Among the plans being examined are a levy on oil products, and increased taxes on tobacco or liquor.

#### **Business Group To Start Environmental Fund for Developing Nations**

*OW1004082992 Tokyo KYODO in English 0747 GMT 10 Apr 92*

[Text] Tokyo, April 10 (KYODO)—Japan's most powerful economic organization said Friday it will establish a special fund for environmental preservation in developing nations.

The Federation of Economic Organizations (Keidanren), a group of major Japanese enterprises, said a formal decision will be made at a meeting of its executive council set for Tuesday.

As an initial step, the organization said, it will join a debt-for-nature swap—a scheme to ease the external debt burden shouldered by developing nations in exchange for expenditures on environmental protection.

The fund also will be used to train people to help protect the global environment, the organization said.

Establishing the fund is designed to encourage Japanese enterprises to participate in environmental preservation projects, Keidanren officials said.

The officials said the fund will be created with voluntary contributions by member companies and their executives.



The debt swap scheme also will help creditor nations reduce loan losses, they said.

Keidanren plans to contribute funds to nongovernment organizations active in environmental protection projects overseas.

The fund will also finance training of environmental preservation and assessment experts at such organizations.

### **Brazil Urges Japanese Funding Support for Earth Summit**

*OW1304120792 Tokyo KYODO in English 1017 GMT  
13 Apr 92*

[Text] Tokyo, April 13 (KYODO)—Brazilian Economics Minister Marcilio Marques Moreira on Monday called on Japan to play a substantial role in funding and supporting the holding of the United Nations Earth Summit in Rio de Janeiro in June.

Officials said Moreira made the call in a 40-minute meeting with Foreign Minister Michio Watanabe.

Moreira was quoted as saying that preparations for the summit, known formally as the UN Conference on Environment and Development (UNCED), are proceeding smoothly. But he added that how the meeting is to be financed remains a "key point."

Moreira, who arrived in Japan on Sunday for a weeklong unofficial visit, said work remains to be done in constructing lodging and transportation facilities for conference attendees.

He said Brazil hopes that financial problems faced in advance of the conference will be ironed out at the UNCED-sponsored gathering in Tokyo from Wednesday to Friday. The meeting, held under the direction of former Prime Minister Noboru Takeshita, is to be include some 20 influential persons from around the world.

Officials said Moriera invited Watanabe to attend the Rio conference. He is expected to reiterate an invitation for Prime Minister Kiichi Miyazawa to attend when he pays a courtesy call on the Japanese leader Tuesday.

Watanabe told Moriera it cannot be said for sure now whether Miyazawa's busy schedule will permit him to attend, but in any event either he himself or Miyazawa would make the trip to Rio de Janeiro.

Officials said Watanabe noted that Brazil's rate of inflation has been steadily falling under the direction of Moriera, who took office last May and survived last month's major cabinet reshuffle by President Fernando Collor de Mello.

They said Watanabe praised the debt-rescheduling agreement Brazil reached last February with foreign government creditors in the so-called Paris Club.

Brazil, whose 116 billion dollar external debt is the highest among developing countries, agreed to pay those governments 4.9 billion dollars in principal and interest between 1992 and 1993 on the 21 billion dollars it owes them.

Watanabe also lauded an understanding on economic policy reached last January between Brazil and the International Monetary Fund (IMF), to which Brazil owes 1.4 billion dollars.

Moriera visited Japan last September, at which time Japan said it would unfreeze 64 billion yen in loans to Brazil in response to that country's repayment of all its debt arrears to Japan.

Officials said Moriera is scheduled to meet Tuesday with Minister of International Trade and Industry Kozo Watanabe and Finance Minister Tsutomu Hata.

### **UNCED Organizer Urges Japan To Assert 'Global Leadership'**

*OW1404102192 Tokyo KYODO in English 0840 GMT  
14 Apr 92*

[Text] Tokyo, April 14 (KYODO)—The chief organizer of the Rio Earth Summit called on Japan Tuesday to exert global leadership on the environment and share its successes in fighting pollution with other nations.

"We expect Japan to assert at the global level the same kind of strong and effective leadership that Japan has demonstrated in dealing with domestic environmental issues," said Maurice Strong, organizer of the United Nations Conference on Environment and Development (UNCED), popularly referred to as the Earth Summit.

Calling Japan's environmental record its "second miracle" after its economic successes, Strong said that achievements in energy efficiency and lowering air and water pollution have prepared Japan for a top leadership role.

Strong made the remarks on the eve of a closed-door international meeting to ponder ways of raising some 70 billion dollars needed to help developing nations implement a host of environmental proposals to be adopted at the June 3-14 Earth Summit in Rio de Janeiro, Brazil.

Some 25 prominent government leaders, former leaders, and financiers are gathering for the three-day Tokyo brainstorming session, officially called the Eminent Persons' Meeting on Financing Global Environment and Development.

The results of the private discussions are expected to influence government decision making, however they will not be binding.

The developing countries are expected to require some 125 billion dollars annually for implementing a comprehensive environmental protection program, Strong said.

Of that, 55 billion dollars is already being supplied in the form of development assistance, leaving a shortfall of 70 billion dollars, of which the developing countries are expected to pick up 80 percent and the industrialized countries the remaining 20 percent.

The Eminent Persons' session, which opens Wednesday, is being hosted by former Japanese prime minister Noboru Takeshita and Gaishi Hiraiwa, chairman of the influential Japan Federation of Economic Organizations (Keidanren).

Among the participants are former prime minister of Singapore Lee Kuan Yew, former U.S. President Jimmy Carter, and president of the Asian Development Bank Kimimasa Tsurumizu.

Strong said he expects the group to address a key concern that thwarted progress toward agreement on financing at a recent meeting in New York, namely administration of the Global Environment Facility, a candidate organization for overseeing distribution of a portion of the funds.

Environmentalists maintain that the two-year-old Global Environment Facility, which is operated by the World Bank in conjunction with the UN environment program and the UN development program, has failed to take measures to ensure that its projects do not harm the environment.

They also object to the what they call the secrecy under which projects are decided upon, which they say prevent public scrutiny.

The Global Environment Facility was launched in 1990 to provide grants and technical assistance to poor countries in the areas of global warming, pollution of international waters, nature preservation, and protection of the ozone layer.

### **Tokyo Promises Significant Role on Global Environment**

*OW2704110492 Tokyo KYODO in English 1058 GMT 27 Apr 92*

[Text] Kuala Lumpur, April 27 (KYODO)—Japan vowed Monday to play a "significant" role in tackling global environmental problems, taking advantage of lessons learned in fighting its own serious pollution in the past.

Shozaburo Nakamura, state minister in charge of Japan's Environment Agency, made the pledge at a three-day ministerial conference of 54 developing countries which ends Wednesday.

"Japan experienced serious environmental pollution in the past and has developed and accumulated various technologies and know-how in the process of overcoming these problems," Nakamura said.

"I believe Japan is able to play a significant role in coping with global environmental issues and this is one of the responsibilities Japan is to assume," he added.

The conference here is designed to work out a common stand among countries of the impoverished southern hemisphere ahead of the U.N.- sponsored Earth Summit scheduled for June in Rio de Janeiro, Brazil.

Expressing his belief that north-south conflicts "must not be repeated in Rio," Nakamura said all countries "must overcome them and make Rio the city of global consensus."

He urged developed countries to "fundamentally change" their growth-oriented industrial culture based on mass production, consumption and disposal into one "more environmentally sound."

At the same time, he called on developing countries to fulfill basic human needs, combat poverty, and curb population growth in pursuing the integration of environment and development policies.

"I believe that sustainable development through integration of environment and development under common but differentiated responsibilities of the countries in the world should be the main concept" of a Rio Declaration to be adopted at the Earth Summit, Nakamura said.

He urged all countries to "seriously" study proposals adopted at a Tokyo meeting of eminent persons from developed nations in mid- April on ways of funding a package of environmental protection programs "in order to reach a consensus on the issue of financial resources in Rio."

"Japan will assume responsibility proper to its status in the international community in the global framework to be adopted at the Earth Summit," he added.

## **SOUTH KOREA**

### **Government Plans Special Body for International Environmental Issues**

*SK0905075092 Seoul YONHAP in English 0526 GMT 9 May 92*

[Text] Seoul, May 9 (YONHAP)—An inter-ministerial organization specializing in environmental matters will be set up to deal with international efforts to preserve earth, officials said Saturday.

It would most likely be formed after the earth summit, the U.N. Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, June 3-14, they said.

The decision to launch the organization was made in a meeting chaired by Prime Minister Chong Won-sik, but it was not worked out if the body will operate independently or be attached to some government agency such as the Economic Planning Board, or to the Foreign, Trade-Industry or Environment Ministry.



In the meeting, Chong told the cabinet ministers to do their best to fully consider the international trend to protect earth when they mapped out and coordinated industrial and economic policies so they did not disadvantage national interests.

The ministers were Choe Kak-kyu for economic planning, Yi Sang-ok for foreign affairs, Kang Hyon-uk for agriculture, forestry and fisheries, Han Pong-su for trade and industry, Kwon E-hyok for environment, Chin Nyom for energy and resources, and Kim Chin-hyon for science and technology.

It was also agreed that the government, in cooperation with private firms and research institutes, should exert efforts to develop substitutes for chlorofluorocarbons, which deplete earth's ozone layer, since Korea joined the Montreal protocol restricting production and use of the chemicals in March.

In preparation for the international convention on climate change, which is to be adopted at the earth summit, it was decided to reduce emissions of carbon dioxide by improving the processes used in manufacturing, supplying more energy-saving facilities, and creating high-value added industries.

It was decided to complete legal preparations soon for entry into the basel convention, adopted in March 1989, which restricts the use and trade of harmful wastes.

The ministers agreed that environmental standards in force in Korea should be strengthened to international levels, and that environmental engineering and related subjects should be included in the government's seven projects for special development for the 21st century.

## MALAYSIA

### Malaysia To Set Up Anti-Environmental Task Force in Europe

BK3104154492 Kuala Lumpur Radio Malaysia Network in English 1330 GMT 31 Mar 92

[Text] Malaysia will set up a special task force in Europe soon to repel falsehood and lies spread by environmentalists using logging and the Penan [tribe] issue to damage the country's reputation and image in the Western media. Primary Industries Minister Datuk Sri Dr. Lim Keng Yaik says the task force, the first to be set up in Europe following a recent directive by the cabinet, will be financed by the Malaysian Timber Industries Development Council. The task force to be launched by him in May will coordinate with Malaysian embassies in European countries, trade commissioners, and public relations firms, which will be engaged by the council. The task force will present Malaysia's side of the story to the mass media and the European people.

Datuk Sri Dr. Lim was speaking to newsmen after attending an earth-breaking ceremony for a new 600,000-ringgit building of the (Yeet Ching) Chinese

private secondary school in Pantai Rengis. He said he would be leading a high-powered Malaysian delegation to Sweden, Germany, Belgium, Holland, and the United Kingdom from 2 to 15 May to meet government ministers and environmental nongovernmental organizations in these countries. His visit is also aimed at assessing for himself the damage that the environmentalists have done to the image and reputation of Malaysia by using the logging as well as the Penan issue in Sarawak.

### Minister Proposes Tightening of Logging Concessions

BK0904125692 Kuala Lumpur Voice of Malaysia in English 0800 GMT 9 Apr 92

[Text] Logging concessions in Malaysia will only be given to companies involved in the timber industry. This is to ensure forests are managed on a long-term basis by experts. A paper on this will be submitted to the National Forestry Council for endorsement and implementation by all state governments. This was stated by the minister of primary industry, Datuk Sri Dr. Lim Keng Yaik, in Kuala Lumpur. He said the Forest Department will use remote sensing devices to monitor excessive or illegal logging.

The minister will lead a 40-man delegation to Europe next month to tackle the anti-tropical wood campaign, especially by environmentalists or non-government organizations against Malaysia. He said the anti-Malaysian campaign is serious and efforts must be taken to give a correct picture. Among the countries he will visit are Sweden, Belgium, Germany, the Netherlands, and Britain.

### Researcher Says Kuala Lumpur Ozone Level Beyond WHO Limits

BK1104074892 Hong Kong AFP in English 0739 GMT 11 Apr 92

[Text] Kuala Lumpur, April 11 (AFP)—Kuala Lumpur's ozone level is rising beyond limits considered safe by the World Health Organisation (WHO), according to university research reported here Saturday.

Azman Zainal Abidin of the Universiti Pertanian's department of environmental science said air monitoring conducted by the university recorded levels as high as 116 parts per billion last month. The WHO standard is 60 parts per billion.

"Levels of ground-level ozone fluctuated between 70 and 95 parts per billion and once went as high as 116," the English-language daily, THE STAR, quoted Azman as saying.

Ozone, which can irritate the eyes and aggravate asthma, is released by photochemical reactions caused when nitrogen oxides and hydrocarbons are exposed to ultraviolet rays.

The report cited medical experts who said long-term exposure could lead to lung damage, especially in the young.

Although the levels were not alarming by local standards, which permit up to 100 parts per billion, the increase was cause for concern, Azman said.

The average daily maximum for October and November 1985 was 25 parts per billion, while last year in the same two months it was 65 parts per billion, Azman said.

He said there should be greater control over the emission of hydrocarbons and nitrogen oxides, largely the product of burning vegetation and incomplete combustion in motor vehicles.

### **German Firm To Help Promote Palm Oil Products**

*BK1304075692 Kuala Lumpur BERNAMA in English  
0449 GMT 13 Apr 92*

[Text] Kuala Lumpur, April 13 (OANA-BERNAMA)—Henkel, the giant German manufacturer of detergent, will help Malaysia to counter prejudices against palm oil, especially its olechemical-based products.

The firm, which uses palm oil-derived olechemicals in its manufacturing process, will work with the Palm Oil Research Institute of Malaysia (PORIM), industry representatives, the Agriculture Ministry, and the Science, Technology, and Environment Ministry to provide the factual arguments.

Henkel has called on the Malaysian palm oil industry to work closely with other palm oil-based bodies elsewhere to present the truth to the world.

Malaysian Primary Industries Minister Lim Keng Yaik last week said that "Malaysia has traditionally been promoting palm oil to the world as an economical and healthy product."

"But recent developments reveal that olechemical-based detergents are also biodegradable and therefore, environmentally friendly."

The olechemical detergents could be completely broken down in three days while petrochemical-based detergents were only 80 percent biodegradable after a month.

Malaysia, he said, had started promoting olechemical-based detergents (using palm oil) which commands a big market worldwide.

Obviously, the promotion has been a success as environmental and interest groups had applied pressure on Henkel not to use olechemicals, he said.

Anti-palm oil lobby groups contend that oil palm cultivation destroys vast tracts of forest, denies tribal people

their livelihood, and causes soil erosion and threatens rivers and the environment.

These environmental groups comprise Greenpeace and a movement believed to have connections with coconut smallholders in the Philippines.

Castigating the environmentalists as "wolves in environmental clothing," Lim said: "We will fight tooth and nail against the political and pseudo-environmentalists who distort facts to protect their interests of their secret backers—the high-cost producers of petrochemical-based products."

Environmental problems were not the real issues. What was at stake was trade competition, he said.

### **Mahathir To Attend Rio Earth Summit**

*BK2904102492 Kuala Lumpur BERNAMA in English  
0931 GMT 29 Apr 92*

[Text] Kuala Lumpur, April 29 (OANA-BERNAMA)—Malaysian Prime Minister Dr. Mahathir Mohamed will attend the earth summit in Rio de Janeiro from June 3 to 14, a Wisma Putra [Foreign Ministry] statement said Wednesday.

The prime minister's decision follows the adoption of the Kuala Lumpur declaration on environment and development at the second ministerial conference of developing countries which ended here today.

Dr. Mahathir said previously that he would not want to attend the summit, formally known as the United Nations conference on environment and development (UNCED), if it was to be used as an occasion to smear or criticise developing countries over environmental issues.

The statement said the Kuala Lumpur declaration "clearly articulates the concern and positions of the developing countries in addressing the subject of environment and development in an integrated, balanced, and comprehensive manner."

The Kuala Lumpur ministerial conference, it said, had provided "an important occasion and a critical stage of the preparatory process for the summit for the developing countries to exchange views and arrive at collective positions on key issues, including financial resources and technology transfer."

It added: "consistent with Malaysia's active participation through the preparatory process, the Kuala Lumpur conference underscored the need for Malaysia to confirm its role."

"Malaysia is prepared, in concert with other countries, to forge a new global partnership which safeguards the environment and promotes economic growth and development."

### Editorial Previews UN Environment Conference

BK0305134092 Kuala Lumpur NEW STRAITS TIMES  
in English 30 Apr 92 p 10

[Editorial: "On the Road to Rio"]

[Text] There is a potent lesson in the globe-shaking deterioration and degradation of the environment—no country can afford to ignore the environment in its pursuit of development. It is a lesson well understood by the ministers from the developing countries who met in the Second Ministerial Conference on Environment and Development. With wisdom, common sense and realism, they have agreed on a common stance to be presented at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June as reflected in its declaration.

The declaration calls for a new concept of global partnership in resolving the ailments of Mother Earth—a partnership between the South and North which is based on respect for sovereignty and principles of equity, justice and equality for the achievement of sustainable development.

The developed countries, being the biggest polluters in the world, need to be accountable for the global "greening" agenda. It is unfair of them to ask developing countries to halt growth. Development is the fundamental right of each and every country. If the North does not want the South to repeat its mistakes, then it should help developing countries in their efforts to realise sustained economic growth and development.

The South is suffering from a critical shortage of investment capital and of access to environmentally beneficial technology which makes environmental protection impossible even with the best of intentions. The industrialised world needs to facilitate a transfer of the much-needed technology to the Third World on preferential and concessional terms. Currently, the private ownership of patents and intellectual property rights in these industrialised countries make it difficult for governments to transfer technology on a non-commercial basis.

On the question of financial resources to clean up the environment, the declaration calls for the establishment of a new fund whereby its governance is transparent and democratic in nature to enable an equitable balance between developing and developed countries. Such a fund should also provide access and disbursement to the South without conditions.

The South rightly refuses to budge from its common stand that "green funds" should be independent of the World Bank. Its disagreement on the present mechanism of the Global Environment Facility (GEF), set up in 1990 to finance projects in developing countries that would clean up their ecological ills, lies in the fact that it is a progeny of the World Bank. If GEF is to work, it

needs to distance itself from the World Bank's reputation for secrecy and its penchant for large development projects that do not involve local people in their design or implementation.

The North must show its commitment to save and protect the environment. Ultimately, this means it needs to offer (and not sell) financial and technological assistance. It needs to help with structural economic problems such as massive debt repayment and unjust terms of trade that exacerbate the South's poverty which in turn worsens the environmental problems.

This conference is not a preparation for "rich-poor" war in Rio. It merely points the direction for global action to save the planet—the addressing of current inequities in the global economic system. The success of the Earth Summit depends on the North's recognition of this fact.

### THAILAND

#### Environment, Industry Groups Resist U.S. Trade Accusations

BK0104035392 Bangkok BANGKOK POST in English  
1 Apr 92 p 26

[Text] Thai environmental groups and industrialists, not normally the best of friends, have formed an unusual alliance to resist the latest U.S. accusation of unfair trading practice in Thailand.

The move is in response to a decision by the Office of the U.S. Trade Representative (USTR) to launch an investigation into allegations that Thailand enjoys an unfair advantage because of its monsoon climate.

The American Paddy and Rice Industry League (APRIL), a leading lobbying group, has complained to the USTR that Thailand is exploiting its climate to hold on to the number one slot in world rice export markets.

The last straw was the 1988 logging ban in Thailand, APRIL president Chuck Harvester IV said in his petition. This would further reduce the opportunity for the United States to gain its rightful place as the world's top rice exporter, he argued.

"What we are seeking is not unreasonable," Mr. Harvester, a California farmer, told Business Post in a telephone interview.

"Fair trade has to be conducted on a level playing field, but in this case the field is tilted in Thailand's favour. All we are seeking is to ensure that Thai rice farmers cease stealing an unfair share of the world's water. Besides we are operating legitimately within the bounds of our law."

News of the USTR's decision was leaked earlier this week. A formal announcement is expected later today.

Under a provision of U.S. trade law known as Section 401 (more properly Section IV/01) U.S. Trade Representative Carla Hills, or her successor after this year's

elections, has to announce a ruling within 12 months, on April 1 next year at the latest.

The law says the USTR has to impose trade sanctions against any government that is deemed to have intervened to influence climatic conditions instead of letting market forces take their natural course.

"What the Thai government has done is a blatant defiance of the economic laws of nature," Mr. Harvester said in his petition.

Over the coming year, Thailand will have an opportunity to argue its case, but American sources say the USTR is only likely to be lenient if Bangkok can prove that logging has resumed.

This is the point that has united the Thai non-governmental organisations and the industrial bodies threatened with sanctions—exporters of textiles products, jewellery and para wood furniture. All of them said yesterday they can prove that APRIL's accusation are totally unfounded.

"The idea that logging stops just because the government issues a decree is absurd," said Thanya Kasikam, president of the Project for Unilateral Revival of the Environment.

Added Morakot Nopphakao, a leading jeweller: "The same goes for the gemstone industry. How many trees are there at Bo Phloi in Kanchanaburi?"

Toh Khruangruan, representing Southern para-wood furniture makers, warned: "If the Americans raise barriers against our exporters, there will be no incentive to grow rubber trees. We will be forced to leave the forests alone."

A Commerce Ministry official, speaking on condition of anonymity, said Thailand would not yield to American pressure, but would abide by whatever is agreed multilaterally at the Earth Summit in Brazil in June.

Thailand normally exports about four million tons of rice annually about double the U.S. figure.

Representatives of the three industries considered under the greatest threat agreed, and they argued that their sectors were all contributing to further deforestation.

"We are now buying more and more cotton domestically," said Aphon Chongkraben, an executive of the Clothing and Apparel Producers' Society. "How do the Americans think the cotton farmers of Nakhon Sawan have managed to increase their output if not by expanding their acreage? And where do the Americans think the farmers obtained their new land?"

### **MPs Say Massive Pollution in Northeast Rivers Caused by Mill**

BK0504050892 Bangkok *THE NATION* in English  
5 Apr 92 p A1

[By Mali Trisawatdithai in Khon Khaen]

[Text] A group of northeastern MPs concluded yesterday that the massive pollution in the Nam Phong, Chi and Mun rivers was caused by a leakage of molasses from a silo at the Khon Kaen Sugar Mill, not as a result of the fire at the MDF Particle Board Company.

The MPs yesterday organized an investigative trip to the Khon Kaen Sugar Mill and found what they said were obvious signs of the leakage at one of the factories' seven molasses silos. Molasses was found in the ground to a depth of about one metre around the silo which was suspected of leaking. Evidence of repairs was found on the silo, which they said had been newly-repainted.

"We believe the molasses storage silo had been leaking, and suspect that the factory could have been trying to hide the fact for fear that it would suffer economic losses. Afraid that the government could order the closure of the factory at a time when it had 200,000 tones of sugar cane in stock, the factory may have tried to direct the public's attention to the fire accident at the MDF Particle Board Company," said Prasom Phrakhunseuksaphan, a Khon Kaen MP.

"Although the pollution of the three rivers was not deliberate, it was wrong if the factory was trying to hide the leak," said Prasom.

According to Prasom, the leakage of molasses could have taken place the night before the fire at the particle board factory on March 13. Around 7,000 cubic metres of molasses could have flowed into the Nam Phong river by the next morning, he said.

The government has ordered the closure of MDF, owned by the same group as the sugar mill, until the factory improves its waste water system. The sugar mill is still in operation.

Maha Sarakham MP Prayut Siriphanit said the leakage of molasses was related to the expansion of the factory's production capacity. He said that in November of last year the factory had imported and installed sugar milling machinery from Czechoslovakia. The factory started operating the machine in January.

"The new machine has doubled the production of molasses while the mill has not built additional silos to handle the increased volume, resulting in overloaded storage silos which finally leaked," said Prayute.

The production capacity of the Khon Kaen Sugar Mill, as approved by the Industrial Works Department, is 9,131 tonnes of sugar cane per day. The expansion has enabled the doubling of that amount, he said.

Prayut also attacked Kamthorn Dilokkomon, Khon Kaen's provincial chief of the Industrial Works Centre, for failing to take action over the sugar mill's illegal expansion.

But Kamthorn, who also took part in the MPs' meeting held yesterday in Khon Kaen, said he did not take legal action for fear of a possible rally by the sugar cane farmers.

## ALBANIA

### Elbasan Steelworks Country's Worst Polluter

AU0304091292 Tirana Radio Tirana Network  
in Albanian 1730 GMT 2 Apr 92

[Text] Inaugurated in 1970, the Elbasan Steel Combine is the largest industrial complex in Albania. Unfortunately, this combine is also the country's worst air polluter. This phenomenon is the subject of a report by Arben Manaj, a journalist on Tirana Radio's International Service.

[Manaj] The journey from Tirana to Elbasan via Qafa e Krrabes is the only opportunity in Albania to experience within one hour two ecological extremes: beautiful landscape and fresh mountain air, and the entire Bradashesh valley hidden in the corrosive grip of appalling smog. All this damage to the valley and the people whom fate brought to live here began in 1966 when the first brick of the gigantic complex was laid, i.e. when the rolling mill started work. Its inauguration was called, as if ironically, Albania's second liberation, whereas today we can call it nothing but an open grave in the middle of Albania, where 11,000 workers of this district writhe every day under smoke, poison, and filth. We talked to engineer Sasha Tepelena, who is entrusted with problems of environmental pollution, and asked him:

How would you describe the pollution at the Elbasan steelworks?

[Tepelena] Alarming.

[Manaj] And this is true. For about 20 years on end, this combine has ceaselessly spewed forth all sorts of poison from carbon monoxide, sulphuric anhydride, and cyanic acid to phenol and, unbelievably, cyanuric acid. We learn shocking facts from the statistics of the combine's management, to which journalists only now have access, because secret state regulations did not even give the combine's managers the courage to acquaint themselves with them. Specifically, the permitted Albanian level, which we stress is not the international level, for the amount of phenol in the air is 0.06 milligrams per cubic meter. In the charcoal plant alone, the amount is 1 milligram per cubic meter, i.e. twice the amount [as heard]. Where the permitted quantity of the highly poisonous cyanic acid in water is 0.01 milligrams per liter, this substance is present at a level of 2.56 milligrams per liter. Thirty-five million cubic meters of industrial water flow into the Shkumbin River every year, containing large quantities of cyanic acid, ammonia, phenol, and other pollutant dust that has practically killed this river. The consequences are obvious. They are clear in the pale faces of steelworkers, not to mention facts that are really very hard to talk about, such as the births of monstrous babies without arms and hands. In the first 6 months of 1990 alone, the last year in which the steelworks worked at full capacity, the workers of this combine registered 46,770 days of sickness. A high percentage of carbon in the blood is

evident not only among steelworkers and the combine's white-collar workers, but also among inhabitants of the city of Elbasan and the villages of the valley of Bradashesh. The low atmospheric pressure makes the atmosphere throughout the area highly suffocating. Neighboring districts such as Librazhd and even Macedonia have continually lodged protests. In the face of all these facts, we posed another question to Mr. Tepelena, the engineer dealing with the problems of the combine's pollution:

Do you think that this combine should be closed or should it continue to operate following reconstruction?

[Tepelena] As far as the question of pollution is concerned, this combine must be closed at once.

[Manaj] A UN investigating team is of the same opinion. This team concluded its investigation with three words in English: Close it down. This combine, according to the people of Elbasan, has led to the disappearance of many varieties of flowers and has damaged the oranges and olives for which this district was famous. Let us not wait until the people are affected en masse, a thing that unfortunately has already begun. The closure of this combine would, in a human sense, save the local people's lives. In an economic sense, it is up to the economists to have their say, but they should speak honestly.

## BULGARIA

### Law on Ecological Requirements for Development, Investment Projects

92BA0284Z Sofia DURZHAVEN VESTNIK  
in Bulgarian No 54, 9 Jul 91 pp 2-8

[Order No. 1 of the Ministry of Construction, Architecture, and Public Works and the Ministry of Environment on Ecological Requirements for Territorial-Development Planning and Investment Projects, dated 13 June 1991, signed for the Minister of Construction, Architecture, and Public Works by L. Pelovski and by Minister of Environment D. Vodencharov]

[Text]

Order No. 1  
of 13 June 1991

on Ecological Requirements for Territorial-  
Development Planning and Investment Projects

### Chapter I

#### General Principles

**Article 1.** This order defines the ecological requirements for the drawing up and implementation of territorial- and urban-development plans and investment projects.

**Article 2.** (1) The ecological requirements for territorial and settlement development are a package of norms, requirements, and indicators for the development of the



territory and the projects situated therein, for the purpose of environmental protection and restoration simultaneously with the satisfaction of society's needs.

(2) The ecological requirements shall be defined and substantiated as a result of comprehensive ecological studies and shall be drawn up as decisions on territorial development and urban development, technical and technological measures for environmental protection and restoration.

## Chapter II

### Ecological Requirements for Territorial-Development and Urban-Development Plans

#### Section I

##### Basic Requirements

**Article 3.** Every territorial-development and urban-development (general and detailed) plan shall contain a part on "Environmental Protection and Restoration," which shall include the following:

1. An analysis and assessment of the existing state of natural resources and conditions;
2. A comprehensive assessment of the territory's ecological state;
3. A forecast assessment of the state of the environment;
4. A synthetic schema and program of measures for environmental protection in the territory under consideration.

#### Section II

##### Analysis and Assessment of Existing State of Natural Resources and Conditions

**Article 4.** (1) The analysis and assessment of the existing state of the natural resources and conditions shall mandatorily include the following:

1. Atmospheric air;
2. Surface water and groundwater;
3. State and disturbances of geological base and relief;
4. Soil;
5. Flora and fauna;
6. Impact of noise, vibrations, and electromagnetic radiations;
7. Thermal and radiation pollution of the territory.

(2) Where necessary, an analysis and assessment shall be made of the state of other natural resources and conditions as well.

(3) The purpose of the analysis shall be to discover the state of the individual natural resources and conditions,

any change thereof, the possibility of their utilization, as well as measures for their improvement protection.

**Article 5.** (1) The analysis and assessment of the state of the atmospheric air shall cover the following:

1. Characteristics of the relief, climatic, and meteorological factors affecting the state of the air;
2. Pollution sources and quantity of pollutants by type and composition;
3. Pollution of the ground layer of the atmosphere and the territorial range of the polluted-air zones, with allowance for the existing background.

(2) The criteria for the state of the atmospheric air shall be the maximum allowable norms of harmful substances set by the current prescriptive acts. If interactive harmful substances are present in the atmosphere, their complex interaction must be allowed for.

**Article 6.** (1) The analysis and assessment of surface water and groundwater shall cover the following:

1. Quantitative and qualitative characteristics of the territory's water resources and rated categorization of the receiving streams;
2. Hydrogeological and hydrological conditions and factors affecting the state and regime of surface water and groundwater;
3. Principal pollution sources, quantity and site of debouchment of waste waters, their composition and treatment method;
4. Principal water consumers and water consumption by water categories;
5. Site of water intake;
6. Changes in the regime of receiving streams due to water use, river corrections, hydraulic structures, and so forth, as well as their impact on the groundwater regime and the territory's overall ecological state.

(2) Criteria for the quantitative and qualitative state of water resources shall be the water economy balance and the current indicators and norms.

**Article 7.** (1) The analysis and assessment of the soil cover and changes in the geological base and relief shall include the following:

1. Geological, geomorphological, and geochemical conditions of the terrain;
2. Assessment of the state of the soil cover and identification of the disturbed lands (eroded, excessively wet, salinized, acidified, worthless for economic activities, and polluted with harmful substances and wastes);
3. Identification of changes in the geological base and relief as a result of economic activities.

(2) Criteria for the condition of the soils shall be the norms for maximum allowable content of harmful substances and their quality-index categorization.

**Article 8.** (1) The analysis and assessment of flora, fauna, and protected natural features and territories shall cover the following:

1. Characterization of the vegetation and assessment of its state and of the habitats of rare and threatened plant species;

2. Characterization of the dominant animal species and of the habitats of rare and threatened species;

3. Characterization of protected natural features and territories.

(2) Criteria for the state of flora and fauna shall be their composition by species and abundance, taxation characteristics, and the ecosystem's degree of stability.

**Article 9.** (1) The analysis and assessment of the impact of noise, vibrations, electromagnetic radiations, thermal and radiation pollution of the territory shall cover the following:

1. Acoustic discomfort zones and sources of noise pollution;

2. Zones affected by sources of electromagnetic fields and of heat and radioactive emissions.

(2) Criteria for the state of the environment shall be the prescribed maximum allowable noise levels and the hygienic norms for electromagnetic and radiation pollution of various territories and zones of the settlements.

### **Section III**

#### **Comprehensive Assessment of Territory's Ecological State**

**Article 10.** The analysis and assessment of natural conditions shall be the basis for the comprehensive assessment of the territory's ecological status.

**Article 11.** (1) The comprehensive assessment shall contain the following:

1. Overall ecological parameters of the territory: the environment's regenerative capacity in respect of its basic elements (oxygen, water, and biomass), maximum allowable (threshold) demographic carrying capacity, allowable degree of disturbance of the ecological equilibrium;

2. Comparative characteristics of the status of the territory under consideration in respect of indicators for anthropogenic load in comparison with the average indicators for the oblast and the country and in comparison with the established norms, as well as consideration of interrelationships with neighboring countries;

3. Territories with ecological problems (those with above-normal pollution, with high population density, with infrastructural overload and a lack of undisturbed

natural environment) and possibilities for their improvement, restoration, and protection;

4. Natural resource potential of the environment from the viewpoint of its ecological suitability for economic use and the ecological zoning of the territory;

5. Ecological limitations and requirements for planning decisions.

(2) The criterion for assessment of the territory's ecological state is the ecological equilibrium, expressed in the following package of conditions:

1. Provision of conditions for environmental regeneration;

2. Provision of a preponderance of geochemical and biochemical activity of the environment in balance with the pollution of anthropogenic origin;

3. Provision of a lower anthropogenic load on the environment than the maximum allowable load;

4. Provision of the necessary ecological minimum undisturbed natural environment.

### **Section IV**

#### **Forecast Assessment of the Environment**

**Article 12.** (1) Territorial-development and urban-development measures shall be subject to a preliminary forecast assessment to determine their comprehensive impact on the environment.

(2) Subject to forecast assessment is the possible environmental change in case of an accident at projects that represent a potential risk of a disturbance of the ecological equilibrium.

**Article 13.** (1) The forecast assessment of the expected state of the environment in consequence of the carrying out of all planned measures shall cover the following:

1. Changes in the anthropogenic load on the environment (settlements, population density, mode of territorial use, and so forth);

2. Changes in the state of individual natural resources and conditions (air, waters, soils, plant and animal kingdoms) and their effect on the ecological equilibrium;

3. Changes in public-health conditions and the ecological threat of the settlements or parts thereof and their population as regards pollution of the biosphere with harmful substances, noise, and other emanations.

(2) The preservation of the ecological equilibrium in the territory shall also be a criterion for assessment of the territorial-development and urban-development plans.

**Article 14.** The forecast assessment shall be the basis for carrying out the necessary preventive environmental-protection measures and the priority tasks in the development of the territory.

*Section V**Synthetic Schema and Program of Environmental-Protection Measures*

**Article 15.** The synthetic schema of environmental protection shall be drawn up on the basis of the comprehensive assessment of the ecological state of the territory and forecast assessments of the impact the planned measures will have on the environment and shall encompass the following:

1. Measures for improving the existing state of the environment and restoring the natural resources and conditions;
2. Preventive measures making possible an ecology-compatible implementation of the planned development of the territory.

**Article 16.** (1) As part of the synthetic schema of environmental protection, there shall be drawn up a stage-by-stage program of nature-protection measures, with approximate capital investment and mandatory priority.

(2) Given a choice of alternative measures, an ecological-economic assessment shall be made of the different versions.

(3) Territorial-development and urban-development measures for the improvement and protection of atmospheric air shall take the following form:

1. Imposition of restrictions and bans on the siting of industrial enterprises releasing harmful substances with impact analogous to or identical with the existing pollutants and giving rise to an exceeding of the maximum allowable norms, as well as on projects for habitation, recreation, and agricultural production in zones with above-norm pollution of the atmospheric air;

2. Creation of sanitary-cordoning zones around industrial complexes or individual polluting enterprises, transportation hubs, municipal works, and so forth;

3. Proposals for technological updating of individual polluters, for removing them outside the confines of the settlements or for closing them down;

4. Restriction on the development of settlements in zones impacted by industrial and other activities;

5. Territorial-development and urban-development solutions for abatement of the health hazards of motor transportation;

6. Landscaping and provision of public services and amenities of the territory.

(4) Territorial-development and urban-development measures for efficient use and protection of water resources shall include the following:

1. Efficient siting of water-retaining systems compatible with the territory's water-resource potential;

2. Preservation and increase of the territory's water-resource potential through afforestation of the catchment area and stabilization of the banks of the receiving streams;

3. Determination of the necessary degree of treatment of waste waters and the site of their debouchment in conformity with the quantitative and qualitative composition of the waters in the receiving stream, with allowance for combined effect of harmful substances acting in the same way;

4. Mandatory provision for the minimum quantities of water that must flow into the receiving stream under the structures in determining the possibility of a new water intake from the source in the water balance for the purpose of preserving the ecological equilibrium;

5. If the quantitative and qualitative state of the territory's water resources is disturbed, proposals shall be made for their technological restoration or for moving or closing down the polluting or water-retaining bodies.

(5) The territorial-development and urban-development measures for the improvement, restoration, and protection of the soil cover shall be as follows:

1. Zoning of the territory and establishment of ecological regimes (observance of restrictions on land use for nonagricultural needs, restriction on the use of pesticides and mineral fertilizers in highly polluted sectors, and a ban on irrigation with polluted waters);

2. Recultivation of lands disturbed by industrial and other economic activities;

3. Erosion control (creation of erosion control belts, recommendations on land-tillage and irrigation method, afforestation of highly eroded lands, and so forth);

4. Neutralization and utilization of solid domestic and industrial wastes; determination of a site and most efficient and harmless method for their storage.

(6) The principal territorial-development and urban-development measures for the protection of flora and fauna, of specimens of inanimate nature and of protected features and territories shall be the following:

1. Zoning and establishment of ecological regimes in conformity with the state of the plant and animal kingdoms, their ecological, recreational, and economic function, and the location of the protected natural features and territories;

2. Proposals for restructuring the species composition of the forests, and for increasing their productivity and regenerative capacity;

3. Determination of the necessity of putting out plants with nature-protective and public-health functions and of forming an integrated green system in the territory;

4. Determination of the necessity for the protection of unique natural features, unaffected by anthropogenic



activity, and habitats of valuable and rare plant and animal species, as well as proposals for their protection.

(7) The territorial-development and urban-development measures for abatement of noise discomfort shall be the following:

1. Zoning and determination of the territory's ecological regimes as they bear on its noise pollution;
2. Improvement of the road and street network and regulation of the rate of traffic flows;
3. Rational interspacing of noise sources and buildings with a different purpose;
4. Proposals for moving noisy production processes outside of settlement;
5. Screening of noise sources by man-made structures, mounds of earth, landscaped strips, nonresidential buildings, and so forth.

(8) The territorial-development and urban-development measures for the abatement of the intensity of electromagnetic fields shall be as follows:

1. Laying the line elements of the technical infrastructure in infrastructural corridors along routes with minimal ecological impact;
2. Establishment of sanitary-cordoning zones around sources of electromagnetic radiations;
3. Landscaping and screening of structures.

(9) To abate thermal pollution of the receiving streams by thermal-radiation sources (nuclear power plants, thermoelectric power plants, and so forth), provision shall be made for isolation of the cooling waters until their temperature becomes normal.

(10) The territorial-development and urban-development measures for protection of the environment from radioactive pollution shall be decided in conformity with the current prescriptive acts.

### Chapter III

#### Ecological Requirements for Investment Projects

##### Section I

##### Basic Requirements

**Article 17.** Every phase of project planning in the investment process shall contain ecological studies and determinations on environmental protection and restoration.

##### Section II

##### Scope and Content of the Part on "Ecological Decisions" in the "Preplanning Studies" Phase

**Article 18.** The ecological determinations shall be formulated in the "Preplanning Studies" phase so that, as early as this phase, a determination may be made of the basic

ecological characteristics necessary for a clear-cut ecological expert opinion approving or terminating further planning.

**Article 19.** (1) The part on "Ecological Determinations" shall be formulated with the following scope:

1. A comprehensive assessment of the ecological state in the region decided upon for siting of the project, this assessment made on the basis of the analyses and assessments of the individual natural conditions;
2. A forecast assessment of the comprehensive impact of the planned project on the environment (natural resources and conditions, change in anthropogenic load on the environment, and ecological equilibrium of the environment);
3. System of determinations and measures for environmental protection;
4. Assessment of the damage from the impact of the project on the environment.

(2) The content of the part on "Ecological Determinations" shall summarize the ecological determinations of the respective planning parts, and the assessments in accordance with Paragraph 2 shall be formulated on this basis.

**Article 20.** The part on "Ecological Determinations" shall contain the following as regards the protection of the atmospheric air:

1. The quantity—by type and composition—of the gases emitted into the atmosphere by the project being planned and investigations to determine their impact, including a version with most unfavorable meteorological condition and maximum pollution background;
2. Site diagrams with an analysis of the impact on existing objects within the confines of the territory;
3. Determination of a sanitary cordon;
4. Gas-scrubbing and dust-cleaning systems, degree of effectiveness and reliability, comparisons with world-class technical achievements in this area;
5. Introduction of no-waste and low-waste production technologies;
6. Methods of using substances trapped by treatment facilities or ways of disposing of them harmlessly;
7. Methods of monitoring the quantity and quality of the gases emitted into the atmosphere;
8. Methods of insuring safety in the region in the event of an accident at the project.

**Article 21.** As regards the protection and restoration of water resources, the part on "Ecological Determinations" shall contain the following:

1. The necessary quantity and quality of water resources for the project and a water-intake site;
2. Determination of the influence of the project being planned on the regime of surface water and groundwater in the region, assurance of minimum quantities of water in the water source after the intake of water;
3. Treatment facilities, including efficiency, reliability, modernity;
4. Quantity and quality of waste water, point of debouchment, influence on receiving stream, including a version with most adverse conditions;
5. Introduction of water-conserving production technologies (dry and semidry production processes, no-waste and low-waste technologies, recirculating water supply);
6. Methods of using the sediments from treatment facilities or of disposing of them harmlessly;
7. Measures for conservation of surface water and groundwater in the region of the project (plugging of aquiferous strata, irrigation, bank stabilization, and so forth), depending on the type of project being planned;
8. Measures for protection of biological life in the water basin (provision for the migration of fishes, maintenance of normal temperature regime, silt control, and so forth), depending on the type of project being planned;
9. Methods for monitoring the quantity and quality of extracted water and waste waters;
10. Methods for protection of water resources in the event of an accident at the project.

**Article 22.** As regards soil protection, the part on "Ecological Determinations" shall contain the following:

1. Substantiation of the acreage and category of land needed for the project being planned;
2. The impact of the project on the soils in the region, including the impact in the process of constructing it;
3. Landscape- and soil-protection measures, including a plan for recultivation of disturbed areas; the order and method of excavation, storage, and utilization of the humus layer from the site of the project, and so forth;
4. Measures for the elimination of adverse aftereffects due to the construction and operation of the project under consideration;
5. Methods for utilization of solid wastes from the production process and construction. If the impossibility of their utilization with modern equipment and technologies is substantiated, sites for their disposal shall be designated, with an assessment of the impact upon surrounding terrains and water resources in the region, and measures shall be provided for their protection.

**Article 23.** As regards the protection of flora and fauna, the part on "Ecological Determinations" shall include the following:

1. Determination of the impact of the project under consideration on the flora and fauna, as well as measures for their protection and regeneration;
2. Well-grounded substantiation in case of the necessity to destroy arboreal and other plant species, and provision of compensatory measures;
3. Provision of passageways for animals to cross freely when projects running in a straight line are planned (highways, irrigation canals, and so forth);
4. Optimum regulation of the anthropogenic load on the ecosystems when planning recreational facilities.

**Article 24.** As regards environmental protection from noise and other emanations, the part on "Ecological Determinations" shall contain the following:

1. Characteristics of the noise, vibrations, electromagnetic and other radiations emitted by the project (level, intensity, duration, operating conditions);
2. Territorial range and site diagram of the impact;
3. Introduction of modern technical and technological solutions for abatement of the emitted noise and other harmful physical factors;
4. Measures for abatement of noise impact (space-and-architectural solutions, introduction of modern soundproofing materials, provision of sound barriers, and so forth);
5. Screening of electromagnetic and other radiations;
6. Methods for protection of the region from radiation in case of an accident.

**Article 25.** The ecological determinations from the "Preplanning Studies" phase shall be included in the technical and economic task of the next stage of planning.

### **Section III**

#### ***Scope and Content of the Part on "Environmental Protection and Restoration" in the "Technical Plan" Phase***

**Article 26.** (1) The part on "Environmental Protection and Restoration" in the "Technical Plan" phase, including the comprehensive schedule of target dates and conditions for completion of the construction, shall be drawn up on the basis of ecological determinations from the preplanning studies and represents their technical and technological solution.

(2) Changes of the ecological determinations and measures adopted in the "Preplanning Studies" shall be permitted only if an unforeseen deterioration of the project's ecological characteristics occurs, or for the purpose of improving them.

**Article 27.** (1) When for a given project a technical plan is drawn up without preparing studies, the part on "Environmental Protection and Restoration" shall contain both ecological studies and determinations in the scope and content envisaged in the "Preplanning Studies," as per Section II of this chapter.

(2) For cases when a change is necessary in the technical plan of one or more ecological solutions (measures) adopted in the "Preplanning Studies" phase, the requirements envisaged under Paragraph 1 shall apply.

**Article 28.** All technical and technological solutions for environmental protection and restoration that are worked out in the "Technical Plan" phase shall be included in the technical and economic task for capital construction.

#### **Section IV**

##### ***Scope and Content of the Part on "Environmental Protection and Restoration" in the "Work Planning" Phase***

**Article 29.** (1) The part on "Environmental Protection and Restoration" in the work plan, including the plan for the organization and completion of project construction, shall be drawn up on the basis of the technical and economic task for capital construction and shall contain detailed planning with dimensioned calculations and blueprints of all structures connected with environmental protection and restoration.

(2) Changes in the ecological solutions in the work plan shall be permissible only if the parameters of the solutions of the preceding planning phases are not changed for the worse.

(3) In the event of an unforeseen worsening of the ecological characteristics of the project, the planning and any construction that has been started shall halt and the part on "Environmental Protection and Restoration" shall be completely reworked in scope and content as per Section II of this chapter.

#### **Chapter IV**

##### **Ecological Expert Opinion of Territorial-Development and Urban-Development Plans and Investment Projects**

**Article 30.** (1) The ecological expert opinion on the territorial-development and urban-development plans is a mandatory part of the comprehensive expert opinion of these projects and shall be made pursuant to the Law on Territorial and Settlement Development.

(2) The ecological assessment of investment projects shall be made by expert bodies of the following:

1. Ministry of Environment;
2. Ministry of Construction, Architecture, and Public Works;

3. Obshtina people's council, with the participation of the RIOOS [*rayonnata inspektsiya za opazvane na okolnata sreda*; rayon environmental-protection inspectorate] and the KhEI [hygiene-epidemiological inspectorate] for all projects in the territory of the obshtina.

**Article 31.** (1) The ecological expert opinion of the territorial-development and urban-development plans and investment projects shall evaluate compliance with the following:

1. Observance of the requirements of this order, current prescriptive acts, and technical and standardization prescriptive documents;

2. First-rate devising of ecological studies with the necessary scope and content;

3. Envisagement and elaboration of the necessary territorial-development, urban-development, technical, and technological measures and means for efficient nature management and for protection and restoration of the natural environment;

4. The extent to which equivalent alternatives encompassing modern measures for protection and restoration of the natural environment have been elaborated.

(2) In accordance with Subparagraphs 1 and 2 of Paragraph 1, the ecological expert opinion shall be categorical—in the event of noncompliance with any of these requirements, the plan or draft shall not be approved.

(3) In accordance with Subparagraphs 3 and 4 of Paragraph 1, the ecological expert opinion may also assess the necessity of additional work so as to include unforeseen measures and alternatives.

#### **Chapter V**

##### **Ecological Requirements for the Process of Applying Territorial-Development and Urban-Development Plans and Implementing Investment Projects**

**Article 32.** (1) In the event of a change in territorial-development and general and detailed (for at least one ward) urban-development plans, ecological studies shall be made, including an analysis and assessment of the individual natural resources and conditions and a comprehensive assessment of the territory's ecological state.

(2) The corrective measures suggested shall mandatorily be subject to ecological expert opinion in conformity with Article 31.

**Article 33.** The obshtina people's council shall not approve plans for projects that do not meet the requirements of Article 13, Paragraph 2.

**Article 34.** (1) Determination of the area for the project being planned shall be made subject to observance of the minimum sanitary-cordoning zones, depending on medical classification, ecological characteristics, and functional purpose of the project.

(2) In the event of a risk of accidental pollution of the atmosphere, the site for the project shall be determined according to the specific geographic and climatic features, with a view to assurance of dispersal of the pollutants and protection of the settlements.

**Article 35.** Authorization for water intake shall be granted by the competent authorities in conformity with the obshtina's water resources balance. Authorization for the debouchment of waste waters shall be accompanied by a specification for the degree of their treatment, depending on the location and qualitative state of the receiving stream.

**Article 36.** Through coordination, both the specific ecological requirements for the plan and the method of its implementation shall be determined (requirement for putting the project "into the picture" of the ambient landscape, for recultivation and the landscaping of terrains, for preservation of the protected natural features in the vicinity, for making projects safe in case of an accident, and so forth).

**Article 37.** No construction permit shall be issued unless there is a favorable conclusion from the authorities in Article 30, Paragraph 2.

**Article 38.** Construction work on the project shall be carried out in conformity with the elaborated plan, with the surrounding terrain safeguarded against destruction of the soil and vegetation and against pollution from the construction debris.

**Article 39.** The project shall be put into service in the manner and according to the procedure laid down in the current prescriptive acts, it simultaneously being required that, during the conduct of experimental trials, all precautionary measures be taken for protection of the environment in one fell swoop.

**Article 40.** During the construction and operation of the projects, the Ministry of Environment shall monitor the observance of the ecological decisions formulated in the project plan, the keeping of the stipulated parameters of the structures within their specified limits, and the discharge of gases and water.

#### Transitional and Final Provisions

1. This order is issued on the basis of Article 201 of the Law on Territorial and Settlement Development and in connection with Decree No. 45/1991 of the Council of Ministers on the Definition of the Principal Functions and Tasks of the Ministry of Environment (DURZHAVAN VESTNIK, No. 25/1991).

2. This order rescinds the following:

1. The instruction of the Ministry of Construction and Organization of Settlements on the content of the part on "Environmental Protection for Capital Investment Projects," published in the BYULETINA ZA STROITELSTVO I ARKHITEKTURA [Construction and Architecture Bulletin], No. 9/1984.

2. The instruction of the Committee on Environmental Protection regarding the drawing up of the part on "Environmental Protection" in plans for capital investment projects and the procedure for rendering ecological expert opinions, published in BYULETINA ZA STROITELSTVO I ARKHITEKTURA, No. 8/1985.

3. The territorial-development and urban-development plans that have gone into effect shall, as they are applied, be brought into conformity with the requirements of this order.

4. Approved investment projects shall, on request of the obshtina people's council, be brought into conformity with the requirements of this order. Pending the rendering of the ecological expert opinion, construction that has been started shall be halted.

5. All outlays on the drafting of the ecological parts of territorial-development and urban-development plans and investment projects shall be included in the cost of the project, while the ecological expert opinion shall be incurred at the investor's expense.

6. Monitoring of compliance with the order is entrusted to the minister of environment and the minister of construction, architecture, and public works.

## CZECHOSLOVAKIA

### Slovak Green Party Warns of 'Ecological Indebtedness'

LD2403130692 Bratislava Rozhlasova Stanica  
Slovensko Network in Slovak 1100 GMT 23 Mar 92

[Interview with Peter Sabo, chairman of the Slovak Green Party, by correspondent Lydia Mrazova following the party's regular news conference in Bratislava today—recorded]

[Excerpts] [Mrazova] It is assumed that the current plenary session of the Slovak National Council will again debate the issue of recalling Minister [of Administration of National Property and its Privatization] Ivan Miklos. You said at the news conference that you would support his recall. What arguments are you putting forward to support this stand?

[Sabo] We want privatization to work in favor of our citizens. It should not work only for one narrow stratum who would grow rich at the expense of the majority of ill-informed holders of investment coupons. [passage omitted] I must emphasize that it does not at all mean that we are opposed to privatization.

[Mrazova] You have been pointing out for some time the so-called ecological indebtedness, which you say could lead even to a loss of value of coupon booklets. Is it really such a serious problem?

[Sabo] Ecological indebtedness consists of the means which will have to be invested by firms to protect the

environment according to new laws. The problem has not been addressed in privatization projects at all, despite the fact that the Slovak Commission for the Environment had been stressing the matter. We think that the problem could lead to the undervaluation of some shares and their cheap buying at stock exchanges because the real price of privatized property would consequently be lower than listed.

We see another danger in the situation where the majority of foreign investors who partake in privatization demand exemptions from having to pay off ecological indebtedness. [passage omitted]

## HUNGARY

### Official on Government Termination of Bos-Nagymaros Dam Contract

AU3103090292 Budapest MAGYAR HIRLAP  
in Hungarian 26 Mar 92 p 5

[Interview with Ferenc Madl, minister without portfolio in charge of the Bos-Nagymaros river barrage issue, by Zoltan Ottvos; place and date not given: "The Parliament Decision Has Created a Clear Situation"]

[Text] Spring seems to have brought a turning point in the history of the Bos-Nagymaros river barrage. The Hungarian Parliament decided on 16 April 1991 to authorize the government to begin negotiations with the CSFR Government on abrogating the 1977 interstate agreement by mutual consent. On 24 March 1992, the Hungarian Parliament decided that, if the CSFR Government fails to halt the construction of the C-version of the scheme by 30 April 1992, our government will have to terminate the contract. We asked Ferenc Madl about the latest parliamentary decision and the expected government measures.

[Madl] This decision expresses the Hungarian position according to which we cannot accept the unilateral construction activity of the CSFR government and its unilateral efforts to operate the Bos river barrage alone, something that involves a unilateral diversion of the River Danube. This cannot be accepted because of the ecological consequences and because this violates Hungary's territorial integrity and the international agreements on making the Danube an international river. As a result, we are now facing a forced situation of terminating the interstate agreement signed in 1977. However, we refrained from terminating this agreement immediately for the benefit of European norms and legal procedures, as well as in order to avoid tensions between the two countries. This issue should be settled by peaceful means, and not by unilateral and illegal actions. Our National Assembly also agreed to authorize our government to call upon the CSFR Government once again to consider the situation and accept the tripartite expert examination. As a result of this examination, the two countries would jointly decide on settling this legal debate. If the other side rejects this and makes unilateral

and illegal steps, the Hungarian Government will terminate this interstate agreement. Our government will do this if a genuine positive answer to this proposal fails to arrive by 30 April. The Hungarian Government is ready to discuss new agreements to deal with the post-termination situation and the flood prevention and shipping problems. The last essential point is that we are talking about a major European issue here, not only about a strictly bilateral issue, particularly if we have to terminate the contract. Therefore, the Hungarian Parliament acknowledges the fact our government informs many international organizations about the Hungarian position and asks them for understanding and support, as well as for the creation of a joint committee of experts.

[Ottvos] There will be parliamentary elections in the CSFR in June. In view of this, when can we expect the creation of the aforementioned joint committee of experts?

[Madl] I am not sure that we should wait for an answer after the elections are over. The issue now is whether they accept the experts' examination, rather than the need to decide on the basic problem. This is not only a Hungarian interest. This project threatens the drinking water of both South Slovakia and Hungary.

[Ottvos] There was a statement made at a recent meeting in Vienna according to which the completion and operation of the Bos power plant is one of the major Slovak national tasks. They did not give up hope of once jointly completing construction according to the original plans. What hopes are involved in such statements?

[Madl] I am not aware of any Hungarian source that agrees with the operation of this project according to the original plans. There is no competent opinion that, without examination, would dare to say that any variation of this power plant could be operated safely.

[Ottvos] The head of the legal department of the CSFR Foreign Ministry declared recently that they would demand financial compensation from the Hungarians for breach of contract. Do they have a right to do this?

[Madl] The termination of the contract is not taking place in an illegal way. In the course of this action, the justification of a demand for compensation is at least questionable. Under international law a contract may be lawfully terminated in the following conditions: An ecological emergency situation authorizes a given country to terminate a contract, and so does "any forced implementation of the impossible." A country cannot be forced to abide by a contract that threatens 45 percent of its population with a shortage of drinking water.

[Ottvos] In a declaration made in Gyor, Hungarian Environmental Protection Minister Sandor K. Kereztes spoke about a technical compromise. Do you think this is possible?

[Madl] I am not aware of any technical compromise on the operation of either part of the project or the entire



project. I think it is extremely important to set up a joint committee of experts to sum up the experience of the last 15 years and give answers to various questions that are still open. For example, there is still no proof that the Bos power plant is not dangerous, and we should be certain of this. Today, every issue of possible environmental damage is viewed by international environmental protection bodies and approached by the law from the opposite direction: The constructors must prove that the project is safe. Mr Sandor K. Keresztes probably meant a technical compromise on the Szigetkoz area, namely that, as a result of the bed of the Danube being lower, we need some kind of technical intervention to stop the Szigetkoz area from drying out.

[Otvos] What will the Hungarian Government do if no answer comes by 30 April? I ask this because the other side promised to start operations at the Bos river barrage at the beginning of October.

[Madl] The decision has created a clear situation: If no answer arrives by 30 April, the Hungarian side will terminate the contract by a unilateral declaration. If a negative answer comes earlier than the aforementioned deadline, our government will terminate the contract sooner.

#### **EBRD Signs Investment Program for Environmental Protection**

*LD1104101592 Budapest MTI in English  
1526 GMT 11 Apr 92*

[Text] Budapest, April 10 (MTI)—An agreement on the joint drawing up of an investment programme for environmental protection was signed in Budapest today by representatives from the appropriate Hungarian ministries and the European Bank for Reconstruction and Development (EBRD).

Initially, cooperation will embrace four areas. A concrete investment scheme will be worked out according to the priorities set by the Hungarian government's programme.

A separate investment programme will be prepared for environmental projects relating to the most important industrial plants and strategic industrial sectors.

As part of the cooperation project, large Hungarian towns will receive financial support to complete the

construction of water and sewage cleaning plants. Gyor, Pecs, Miskolc and Debrecen will be involved in the first stage.

The agreement envisages preliminary investment plans for three regional programmes covering Lake Balaton and its vicinity, Tata and the upper Danube.

The programmes provide the basis for extensive environmental projects, particularly with respect to sewage purification, the protection of drinking water reserves and the development of water management.

#### **ROMANIA**

##### **Ecologist Condemns Practice of Storing Western Waste**

*AU1004130092 Bucharest ROMPRES in English  
1022 GMT 10 Apr 92*

[Text] Bucharest, ROMPRES, 10/4/1992—"If we use the up-to-date phrase 'to join Europe', then we should make our integration in a dignified way, not by degrading services which insult the nation's dignity," Toma George Maiorescu, president of the Romanian Ecologist Movement [MER], underscores in an interview with daily LIBERTATEA.

Referring to the recent "garbage scandal", which has also affected that movement's reputation, Toma George Maiorescu emphasized that "a distinction should be made between the Romanian Ecologist Movement's operational and strategical policy and the involvement of various personalities belonging to its Steering Committee who can be in conflict with that policy by some of their decisions (personal initiatives)." "We are nobody's colony so that the garbage of 'the civilized world' be brought to us," Toma George Maiorescu said in the context making reference to the well-known "Sulina case" [involving storage of radioactive waste] or to the "garbage scandal" recently provoked by Mr. Drimer (former executive of the Romanian Ecologist Movement) in connection with the storing of Western garbage in Drobeta-Turnu-Severin and in other two large towns of Romania (Sibiu or Timisoara).

Referring to the frequent offers made to him in connection with the storing of garbage in Romania, Toma George Maiorescu shows that it doesn't mean that they should be immediately "agreed upon". Nobody gives you anything without wanting something instead, he says, and as far as the recent garbage scandal is concerned what is wanted is our very breathing air. We cannot become Europe's dustbin as somebody tries to do, Toma George Maiorescu concludes.



## REGIONAL AFFAIRS

### Congressmen's Meeting Seeks Better North, South Relations

PY3004032492 *Brasilia Voz do Brasil Network*  
in Portuguese 2200 GMT 29 Apr 92

[Report by Carlos Gilberto Alves from Sao Paulo]

[Text] Congressmen and representatives of Latin American nongovernmental organizations linked to the environment want relations between wealthy and poor countries to improve.

Unless Latin American society makes a great effort to overcome the continent's political and institutional fragility, which are constantly threatening the plans for future development of the region, the criteria for the use of natural resources will not be modified and a new ecologically sustained development model will not be achieved.

This is one of the main conclusions reached by nearly 200 congressmen and 60 nongovernmental organizations from 20 Latin American and Caribbean countries during the first official meeting of the UN Conference on Environment and Development—the Latin American Congressmen's Meeting. The meeting ended today at the Latin American Memorial in Sao Paulo. Those attending signed the Sao Paulo Charter. The charter points out that the disruption of the democratic process, such as that which occurred in Haiti and Peru, is a mere reflex of the economic, social, and political tragedy involving the entire continent. In the opinion of the Latin American congressmen, this tragedy is caused by debasing and unacceptable relations prevailing between the developed and poor countries.

## ARGENTINA

### Government, Political Parties Agree on National Forest Plan

PY1304021092 *Buenos Aires BUENOS AIRES HERALD* in English 11 Apr 92 p 9

[By RMH]

[Text] The government and 12 political parties (the only exception was the main opposition Radical Party) signed a document on Wednesday [8 April] urging the national, provincial and local authorities as well as nongovernmental organizations to draw a national forest plan. The declaration was signed in the framework of the political dialogue organized by Interior Minister Jose Luis Manzano. It was Environment Secretary Maria Julia Alsogaray's idea to introduce this issue in the talks.

Alsogaray stressed that the agreement was originally designed by 12 parties including the Justicialist Party currently in office and her own Democratic Centre

Union. "The Radicals agreed with the contents of the accord but did not like the procedure, so they refrained from signing it," she said.

"In the face of a serious emergency, public and private institutions must get together to draw a joint plan to define the technical instruments for the management of forests in the next decades," the documents reads.

This is the first agreement to come out of the political dialogue. Government sources said that President Carlos Menem will possibly ask his aides to transform the initiative into a national forest plan draft law.

In previous contacts with the press, Maria Julia Alsogaray had pointed out that the preservation of the environment "is essentially an economic issue, but it is currently being politicized at an alarming speed."

## DOMINICAN REPUBLIC

### 'Disastrous' Situation of Nation's Forests Noted

92WN0405A *Santo Domingo EL NACIONAL*  
in Spanish 24 Feb 92 pp 18-19

[Article by National Army Colonel Pedro de Jesus Candelier Tejada, general director of forests]

[Excerpt] [Passage omitted] In 1945 the United Nations Food and Agriculture Organization (FAO) took the country's first forest inventory, which indicated that 69 percent of the national territory was covered with woods: in other words, the country had a wooded area of 34,382 square km. The magnitude of these woods was such that, by 1939, the forest area was represented by 2.3 hectares per capita. This exceeded the numbers for traditionally forested countries, such as Germany, with 0.18; Switzerland, with 0.21; Austria, with 1.94; and Uruguay, with 0.28.

The largest forest resources were concentrated in the Central and Northern Cordilleras, where there was an abundance of many species such as pine, oak, mahogany, savin, cabirma, etc. The FAO itself determined that, by 1974, only 20 percent of the national territory was covered with forests. Data from 1980 indicate that only 14 percent of our territory was wooded: in other words, within just six years the forest cover had declined 6 percent. This represents an annual deforestation rate of 1 percent. It is estimated that we currently have less than 10 percent wooded areas.

These figures should prompt the reflection of all Dominicans concerned about our forest resources, as well as active involvement in the necessary crusade for their preservation.

The disastrous situation typifying the national forest sector is a result of the accumulated mistakes made by generations preceding us and, why not?, by members of our own generation. As a result, we are now inhabiting a

severely deforested country; something that has caused an appalling panic among the nation's conscientious social sectors.

The republic's territory totals about 76 million tareas, of which approximately 65 million have been deforested. This leaves only some 11 million tareas, pressured by an increasing demand for forest products for the construction industry and for vegetal types of energy.

It is estimated that, during 1972 alone, 3,376 square km of woods disappeared: in other words, 7 percent of the national territory. This is equivalent to a loss of 540,160 tareas. If we project that for a 10-year period, we would be talking about 5,400,600 tareas converted from wooded land to land for other uses, or in a process of deterioration.

This large-scale deforestation rate is the cause of the high levels of massive soil erosion, most particularly in the mountainous territories. From there, the sediments are being deposited in the river systems of the principal watersheds, and are thereafter taken to the impoundments of the country's expensive dams and reservoirs.

According to estimated calculations, the erosion caused by this deforestation produces between 100 and 500 tons of sediment per hectare annually.

Most of those familiar with our real forest status agree that we have a plant cover of 242,000 hectares without control: the equivalent of 5.1 percent of the country's total area; and about 310,000 hectares covered with deteriorated woods: that is, 6.1 percent of the total area. Nevertheless, these figures are not entirely realistic at present; rather, the situation has been worsening day by day.

The production of sawed lumber from the native woods is permitted only for the Sierra Plan, the operation of which is authorized through an Executive Branch decree.

However, there is still marketing of lumber extracted illegally from our woods, but in an extremely small quantity compared with the 15 million cubic meters that were being extracted before the adoption of the restrictive measures. The processing of both native and imported wood is taking place in approximately 1,300 millworking shops operating in the country.

The country has a wooded area of between 200,000 and 300,000 hectares for the extraction of wood to be used for fuel, with an approximate annual output of 2 cubic meters per hectare. This figure is considered quite low.

This area, under forest management, does not cover the annual consumption of firewood and charcoal, estimated at over 4.5 million cubic meters. Hence, the firewood and charcoal demanded by over 70 percent of the Dominican population comes from natural woods; and its method of extraction, in which one notes a total lack of management techniques, does not guarantee a steady production. Rather, it is causing the splitting and deterioration of the dry woods.

Our high mountain territories have been the site of a damaging but dynamic process of intensive agricultural production and uncontrolled livestock activity. It is on that land precisely that about 80 percent of the native beans, and a large proportion of tubers and root crops, are produced, as well as other vegetables and condiments. This situation, often given an incentive by government credit and the seed supply, has had negative repercussions on water flow regulation, erosion control, preservation of wild fauna, and conservation of the ecological balance that should exist in the watersheds. Thus, the methods of agriculture, devoid of soil conservation techniques, as well as livestock raising in the high watershed areas, are factors causing their present state of deterioration.

The most distressing part about this is that the process is taking place on both private and state land, even that defined as national parkland. Examples are Los Haitises, defined as a scientific reservation, and Valle Nuevo, Constanza; as well as woods protected by laws and decrees, such as those of Haina-Duey.

As I explained previously, the current demand for firewood and charcoal is estimated at 4.5 million cubic meters, with a 1.4 percent annual rate of increase.

The average demand for raw material for sawed lumber production is estimated at over 3 million cubic meters. Most of these requirements are being met with imports from the United States, Chile, Guatemala, and Brazil, and, to a lesser extent, Honduras. The national investment in this item is approximately \$150 million. [passage omitted]

## GUATEMALA

### Environmental Study on Guatemala City Published

92WN0396A *Guatemala City SIGLO VEINTIUNO (Momento Supplement) in Spanish 23 Feb 92 p 2*

[Article by Mario Carpio Nicolle]

[Text] The population of Guatemala is increasing at a rate of 1 million inhabitants every four years, with a growth rate of 2.9 percent, one of the highest in the world. The population density is 84.4 inhabitants per square km; with 21.3 percent of Guatemalans living in the Department of Guatemala, and 62 percent in rural areas. Nearly 2 million inhabitants (1,962,953) reside in this department, which includes the Metropolitan Region. Slightly over 1 million inhabit the Municipality of Guatemala, that is, 54.1 percent of the departmental total; and about 350,000 live in Mixco. This means that 72 percent of the Metropolitan Region's population is located in two of the department's 17 municipalities.

These data are contained in a monograph on the environmental features of the Metropolitan Region, "just out of the oven," prepared by the Association for Social

Research and Studies (ASIES) as a basic document for the workshop-seminar preceding the forum on "Environmental Policies, Metropolitan Region," held last Thursday at a hotel in the capital. Much of what one reads in the document has received a relative degree of publicity through the print media, but a metropolitan view had not been methodically formulated with the data and the changing problems per se, which are updated almost to the present day.

Its updating of the itemized information and its organization of scattered data on converging issues, compiled in a lengthy, heterogeneous bibliography, constitutes one of the monograph's greatest merits. Another, and not the least (as has already been noted), is that of having succeeded in isolating the metropolitan problems from those of the nation as a whole. Owing to its all-inclusive environmental composition, including the natural features in all their diversity, as well as the sociodemographic conditions and types of use made of resources, the monograph will have to be a required volume in the libraries of experts from various fields associated with environmental problems.

### The Fuel of the Poor

In Guatemala the consumption of firewood for cooking food represents 62 percent, and the capital shares a sizable percentage. The nation's interior is being deforested in the city, because the 35 percent of metropolitan households consuming firewood in the urban area, and the 74 percent doing so in the peri-urban area, obtain it from Villa Canales, Tecpan, San Raimundo, San Vicente Pacaya, Chimaltenango, San Pedro Sacatepequez, and Huehuetenango.

According to the Madelena project, quoted in the monograph, "Seventy-nine percent of Guatemalan households consume firewood as a basic subsistence fuel; but the entire population does so indirectly, when consuming tortillas and bread. In the Department of Guatemala, the lower-income people are those consuming the largest amount of firewood, because it is the energy with the least initial investment cost, although it has low efficiency." It should be noted that the firewood consumption in the urban metropolitan areas is tending to decline in favor of liquid gas. However, this savings is probably offset by the increases in the peri-urban area (from 71 to 74 percent of households). In absolute terms, this means an increase of 2,400 households per year burning up 2.7 logs per person daily.

On the other hand, the Department of Guatemala has authorized (1989) 6.28 percent of the national total of forest use permits, not counting Peten.

The woods in Guatemala are gradually becoming extinct. "The advancement of the agricultural frontier, the use of firewood as fuel, the cutting of lumber for industrial use, fires, and pests, in that order, are the main

causes of deforestation in the country," as the monograph reports. "The Metropolitan Region shows, besides the problems common to the country, the phenomenon of disorderly urban development; which has resulted in only about 2 percent of the area being left covered with dense woods."

Although no highly accurate measurements are available, various technical agencies have estimated that, at the current rate of destruction, the forests of Guatemala will disappear from our national space within the next decade.

### Water Pollution

With the same degree of seriousness as the destruction of forest resources, water resources are being depleted as a consequence of the pollution of rivers and lakes, and the decline in the underground water level. In this regard, the ASIES document, based on data from the Ministry of Communications and Public Works, states: "Underground water studies of the Guatemala City southern watershed indicate constant declines in the volume of flow rate (0.70 m per year), which cannot be recovered during the rainy season. This demonstrates a tendency toward depletion of the resource (...). The best underground spring refill areas have been deforested and urbanized; which is reducing infiltration considerably."

Quoting SIGLO 21, it continues: "In some areas, the underground water is polluted by infiltration of chemicals and residues coming from inadequate sanitary landfills. An example of this is the case of the private wells supplying the Roosevelt and San Vicente Hospitals, which were reported contaminated with fecal excrement." According to a PRENSA LIBRE article that is quoted, "In 1991 it was reported that the water from the Las Ilusiones treatment plant in Zone 18 was polluted with industrial waste from factories located in the urban perimeter."

According to other quotations: In 1978 the Villalobos and Pinula Rivers were already showing considerable pollution levels: large amounts of solids in suspension, high concentrations of phosphorus, potassium, sodium, chlorine, and nitrites (exceeding the maximum limits accepted by the World Health Organization), and a high level of fecal contamination proven by the presence of coliforms. Moreover, according to a study of the Pinula River, in the Hincapie section, even after its treatment the water shows an unsuitable color, odor, and muddiness, with a concentration of chlorides inappropriate for irrigation, and a low sodium level.

As for Lake Amatitlan, it receives 75 percent of the domestic sewage and that from agroindustrial activity in the capital city, as well as from contributing municipalities, especially through the Villalobos River, which is its main tributary. There are 341 factories and 125 settlements and communities located on the outskirts of the city whose waste reaches the lake.

The air pollution is also disturbing: lead (the resolution banning its use in gasoline has not been implemented), particles in suspension, and carbon monoxide in particular. Their average in the air exceeds the limits permitted in the cities of developed countries. To be added to this are the solid wastes carrying diseases, food packed with a high degree of contamination, such as canned tomatoes; and the fecal contamination found everywhere. Spreading the latter are the 13,000 street food vending stands, some of which are contaminated as much as 84 percent with excrement. In the "jet corridor" (zones 1, 4, 9, and 14), noise pollution is causing hearing loss, high blood pressure, and nervous disorders. The

noise on the arteries with the most traffic exceeds the highest limits for decibels allowed in large cities.

The list of all the elements contaminating the environment, endangering the health and deteriorating the quality of life of Guatemalans, could be extended much longer. Underlying it are poverty, illicit and abusive exploitation of resources, irresponsibility of industrial plants, and, perhaps most notably, noncompliance with the laws. The capital of Guatemala is a sick city, which could become a dying city tomorrow, in a country whose population will tend to become extinct from residing under environmental conditions that are unfit for life.

## EGYPT

### Study Projects Future Water Needs

92AF0548Z London AL-HAWADITH in Arabic  
22 Jan 92 p 11

[Unattributed report: "Egyptian Agriculture Needs Additional 12.7 Billion Cubic Meters of Water by the Year 2000"]

[Text] Cairo—Egypt annually consumes 60 billion cubic meters [ $m^3$ ] of Nile water, agricultural waste water, and groundwater. With population increase and agricultural and housing development, it will need 72.7 billion  $m^3$  of water in the year 2000.

According to the most recent report prepared by the Ministry of Public Works and Water Resources, confronting this situation will require better use of Egypt's share of Nile water, rated at 55.5 billion  $m^3$  per year, reuse of agricultural waste water, and implementation of projects to reduce the loss of Nile water, an estimated 13 billion  $m^3$  of which drain into the Mediterranean annually.

Engineer Muhammad Qutb Nasr, first undersecretary of the Ministry of Public Works, said: "Agriculture alone consumes 33.7 billion  $m^3$  of Nile water per year. This calls for changing the crop profile to reduce crops that consume water lavishly, such as rice and sugar cane, and expand crops with less water consumption and greater yield."

Statistics indicate that rice, grown on an area of 700,000 feddans, consumes 18 percent of the Nile water allocated to agriculture. A single feddan planted in sugar cane consumes more than 12,000  $m^3$  of water per year.

This situation has led experts in the Center for Agricultural Research to develop new varieties of wheat, rice, and corn that consume less water. They have used genetic engineering to obtain varieties of wheat and barley more resistant to salinity, which means that their growth can be extended to the salt-affected lands that parallel 30 percent of the total cultivated land area.

Dr. Mahmud Abu-Zayd, head of the Center for Water Research in Egypt, says, "Egypt must arrange for an additional 12.7 billion  $m^3$  of water before the year 2000 if it is to continue the projects of agricultural and housing expansion needed to catch up with the population increase."

### Groundwater

On the other hand, it is necessary to draw from groundwater in the Nile valley and delta, as well as use ground reserves under New Valley [al-Wadi al-Jadid] in order to be able to exploit .25 million feddans of arable land in the west [Jabal] al-'Uwaynat area.

Experts are asking for an increase in the amount of agricultural waste water that is reused in the delta and

al-Fayyum for agricultural purposes. Nile water that flows into the Mediterranean should be stored in lakes [Buhayrat] al-Manzilah and [Buhayrat] Burullus. Possible conversion of these two lakes into freshwater bodies in the near future is now the subject of study.

In a related area, studies call for the need to improve irrigation systems at the rate of 100,000 feddans a year in order to control irrigation loss, which is estimated at 25 percent of the water allocated to agriculture.

Dr. Muhammad Abu-Mandur, head of the economics department in the Agricultural College, says: "Work on the Jonglei Canal [in Sudan] must be completed so as to make use of the water lost in the marshes. The civil war in the south of Sudan brought the project to a halt in 1984, despite the fact that it will save 4 billion  $m^3$  of water, to be divided equally between Egypt and Sudan."

Statistics show that Egypt's agricultural area has not registered an increase paralleling the population increase during the last 93 years. The agricultural area in 1897 was about 5.1 million feddans; the population at that date was no more than 9.5 million. Now, at the beginning of 1992, the agricultural area is no more than 7.4 million feddans, while the population has jumped to 56.6 million. This situation proves the need to arrange for the water resources needed for drinking, agriculture, and industry. These needs will be an estimated 72.7 billion  $m^3$  of water in the year 2000, when the population of Egypt will exceed 70 million.

### Expert Cites Egypt's 'Haphazard' Environmental Planning

92WN0370A London AL-SHARQ AL-AWSAT  
in Arabic 23 Feb 92 p 10

[Article by 'Ukashah Abu-al-Dahab]

[Text] Cairo—An Egyptian environmental expert has linked the protection and development of the environment in Egypt with those of the various Arab and African countries contiguous with Egyptian territory and coast. Dr. Muhammad 'Abd-al-Fattah al-Qassas, speaking at a seminar of the Academy of International Cooperation in Egypt, said that Egypt loses about \$100 million annually because of poor environmental planning. He warned against building encroachment on agricultural land, and called for drawing up a national plan and policy for land utilization in Egypt.

The expert said: "Development and peace are a collective, not an individual, process restricted to some countries to the exclusion of others." Dr. al-Qassas, professor of environmental science at Cairo University, stressed the need to change the concept of Arab peace and security from merely a military operation to a development process encompassing the various aspects of political, economic, and social life. Criticizing what he called "haphazard planning" of Egypt's environment, he referred to the nuclear power station that Egypt was planning to build in Sidi Karir on the northern coast.



The country spent \$8 million to prepare the area for the project, but later changed its mind and decided to build it at a location 75 km from Matruh. Dr. al-Qassas also referred to the city of Hulwan, which has become an environmental trap after it had been one of the two top cities in the world as an international sanatorium.

Dr. al-Qassas then dealt with the problem of the water shortage and the inefficient use of water. He said: "Freshwater resources in Egypt are limited. We cannot say that it is sufficient. Water is an important basic factor for agriculture's future." The environmental expert said that inefficient use of water could lead to reduction in our water resources. This is evident in the fact that Cairo residents' actual water consumption is no more than 15 percent, while the remaining percentage constitutes waste.

He pointed out that the rate of water consumption in Egypt has multiplied greatly. He said that per capita consumption in 1980 reached 300 liters [not further defined], against 69 liters in the 1930s. "This," he said, "confirms that water utilization is a haphazard affair, which threatens the future of agriculture and development, and even of human beings in Egypt."

Dr. al-Qassas criticized the lack of legislation making fishing in contaminated water a criminal act, in order to protect human lives against contaminated fish in these areas. He also criticized the contamination of coastal waters in Egypt with refuse from ships and boats sailing in the coastal areas, which threatens to kill tourist development. He said that Egypt is not exercising its right to enforce the law on coastal protection against pollution sources. In this regard, he also criticized the current dispute between the Ministry of Tourism and the Ministry of Petroleum over which of the two has the right to utilize the 110 km-long Red Sea coast. He said that both should coordinate the ideal utilization of the coast, and share jurisdictions so that the tourism and petroleum sectors will not be affected.

Dr. al-Qassas referred to the question of the loss of cultural resources and its effect on Egypt, saying that Egypt has lost a large number of plants and animals of cultural importance, such as the papyrus plant, which represents part of Egyptian civilization and the paper industry in Egypt. The same can be said about the ibis bird, which has become extinct; and the ibex goat, which is found in Nubia. A British mission had acquired the goat and improved its stock, turning it into a type that produces half a cow's milk production. He said that now Egypt imports this breed of animal for a high price.

He pointed out that scientific development now enables man to transplant the hereditary characters of animals and plants of different species and characters in order to produce hybrid plants with the distinguishing character of every species.

## INDIA

### Minister Elaborates India's Position at UNCED

92WN0446C New Delhi *INDIAN EXPRESS* in English  
23 Feb 92 pp 1, 13

[Unattributed report: "India Won't Bow to West on Ecology"]

[Text] New Delhi—India has decided to reject the proposed forest convention at the world conference on environment and development at Brazil in June. It will also not accept the biodiversity convention because developing countries which have the genetic wealth have no access to the biotechnology which is with the developed countries.

India's position at UNCED (United Nations Conference on Environment and Development) was elaborated in detail by Mr. Kamal Nath, the minister of state for environment and forests, at a press conference here. He said developing countries had agreed to a common stand at UNCED and India is expected to play the role of the leader for the developing world.

Mr. Kamal Nath said on the Earth Charter and Agenda 21, India's stand is that developed countries are mainly responsible for global environmental degradation and they must take the necessary corrective steps by modifying consumption patterns and lifestyles; developing countries can participate in global action, but not at the cost of their development efforts. They require additional financial resources and transfer of technology; environmental standards should not be harmonised at the global level and new environmental conditionalities in aid or trade should not be imposed.

In Agenda 21, India may consider accepting time-bound targets for various environment indicators provided the resources required are quantified and clearly identified.

Mr. Kamal Nath said we cannot accept a review of national policies by external agencies, or mandatory guidelines in forestry and energy. Developing countries feel that any effort to impose any regulatory regime in case of forestry at an international level could prove counterproductive. Individual countries should be encouraged to have legal and institutional mechanisms to control the loss of forests through financial and technical cooperation by the international community.

India does not support the move for a global legal instrument on forestry and any attempt to impinge on the inalienable sovereign rights of nations over their natural resources. Mr. Kamal Nath said "we are wary of external pressures which may lead to deforestation in the developing countries. Such pressures include trade imbalance and commodity pricing."



There is not much effective cooperation between the biotechnology-rich developed countries and the gene-rich developing countries. The efforts so far have been to exploit the vast genetic resources of developing countries including India.

The principle of national sovereignty over natural resources is being emphasised by developing countries. Parting with such resources would be only on terms and conditions acceptable to the host country. The issues of bio-diversity are to be discussed with sharing of biotechnology as the two are inseparable. The developing countries want intellectual property rights related to biotechnology, traditional knowledge of farming communities and new varieties to be dealt with clearly in the proposed convention. Besides, the issue of compensation for preserving bio-diversity has to be given due importance—and this could only be through providing adequate, new and additional funding to developing countries.

Mr. Kamal Nath said "if access to biotechnology is going to be denied to developing countries on grounds of protection of Intellectual Property Rights, then countries providing the genetic material will have little enthusiasm for additional measures to conserve biodiversity. Equally important is recognition of rights of farmers who for centuries have worked towards developing and improving crop varieties.

Mr. Kamal Nath pointed out that developing countries together contributed less than 5 per cent of the 1.5 million tonnes per year of global emission of CFCs and halons which are depleting the ozone layer. India intends to join the Montreal Protocol when the London amendments on the transfer of technology are ratified by the 20 countries who are signatories to the Protocol of 1987. So far 18 countries have ratified the amended Protocol. India's obligations to cut back on its CFC consumption will begin only after 10 years.

On climate change and green house gases, India's stand is that global warming is not caused by emissions of the gases per se but by excessive emissions. The responsibility of cutting back on the emissions rests on countries whose per capita consumption is high. Responsibility of countries has to be in relation to the damage caused. India's stand is that emissions in developed countries be reduced totally with the per capita emission levels of developing countries.

#### **India Opts To Join Amended Montreal Protocol**

*BK0704121292 Delhi All India Radio Network  
in English 0830 GMT 7 Apr 92*

[Text] The government has decided to join the Montreal Protocol after the amendments to the protocol adopted at London in June 1990 come into force. This was stated by the minister of state for parliamentary affairs, Mr. P.R. Kumaramangalam, in a written reply to the Lok Sabha today. He said the Montreal Protocol of September 1987 provides for the phasing out of certain

ozone-depleting substances in a given timeframe. It also contains provisions for international cooperation for the purpose.

#### **Environment Minister Views SAARC Countries' Stand on Earth Summit**

*92WN0484C Bangalore DECCAN HERALD in English  
10 Apr 92 p 9*

[Text] New Delhi, April 9—The SAARC [South Asian Association for Regional Cooperation] countries will press for an agreement based on "equitable global responsibility" for environmental protection while simultaneously addressing the needs of developing countries, at the United Nations Conference on Environment and Development (UNCED) in June.

The seven countries will also highlight that decisions on strategies for sustainable development are a matter of national decision making and the role of international cooperation should be to support and supplement, and not supplant national efforts, the Environment Ministers of the SAARC countries decided.

Listing out eight basic principles, on which the UNCED and following action on environmental protection and development should be based, in a joint communique at the end of the two-day meet to decide a common approach to the summit, the Ministers expressed concern at the various areas of discord such as financial resources, technology transfer for environmental protection, etc.

However, addressing a press conference at the end of the deliberations, the Minister for Environment and Forests, Mr. Kamal Nath sought to correct the impression that the month-long meet in New York was a total failure.

There were several areas where there was broad consensus recognizing the right to development, and the fact that humans and not environment are central to sustainable development, the Minister said.

There was also discussion on key issues relevant to India such as decertification, wasteland development, the need to augment water resources and biotechnology, Mr. Kamal Nath clarified.

At the same time however, there are other important areas on which there has been disagreement, with the most crucial and difficult one being the funding mechanism for environmental protection, Mr. Kamal Nath said.

**Funds:** Though, significantly, the need for new and additional funds has been recognized as a concept for the first time, some aspects like the scope, flow and government of funding have been points of discord, the Minister said.

An indication of the enormity of the funding problem can be had from a study conducted by the UNCED Secretariat which put the total funding needed by the

developing countries to tackle environmental degradation at \$625 billion, he said.

While the study estimated around \$125 billion to be available under Overseas Development Assistance [ODA], the developing countries would have to raise the remaining \$500 billion locally.

While we have been insisting that the developed countries contribute a minimum of .7 percent of their GNPs [Gross National Product] to the ODA, their present level of contribution comes to just .35 percent of the GNP, Mr. Kamal Nath informed.

If environmental protection has to be on an equitable partnership basis, then funding from the developed nations will have to increase, the Minister stressed.

While bringing out these points, the joint communique also emphasizes the need for technology transfer on preferential noncommercial terms to the developing nations.

## IRAN

### Weak Laws Hamper Efforts of National Forests Organization

92AS0808Y Tehran JOMHURI-YE ESLAMI in Persian  
12 Mar 92 p 17

[Text] The lack of recognition of the real position of the National Forests and Pastures Organization among the nation's organizations and the daily and increasing destruction of forests have thwarted this organization's activities in revitalizing, preserving, and utilizing forests.

According to experts from the National Forests and Pastures Organization, the presentation of disturbing figures and statistics on the unnatural destruction of forests has become business as usual, and the main reason for this has been weak laws and noncoordination in preventing damage to forests.

The only way to save the nation's forests is to make use of all potential and active resources, because as long as the forest preservation program is regarded without consideration for the mission of protecting the forest environment, the destruction will continue.

Currently, in the nation's northern forests alone, more than 5 million head of livestock have arrested forest rejuvenation and renewal activities by feeding on fresh saplings.

Every year more than 100,000 hectares of the nation's best forests are destroyed by relentless tree cutting, fires, excessive consumption and other factors. Likewise every year millions of rials in wood is lost to fires burning up valuable saplings. In the midst of this, without a basic solution to the executive and legal problems in the forest preservation program, there will be nothing more than warnings.

Some of the forest custodians say that along with dealing with the profiteering from cutting wood, attention must also be given to the way these individuals make their living. If there is no basic program to preserve the remaining forests, especially in the northern part of the country, in view of the increasing population in the northern provinces, the situation with natural resources will become even more complicated.

IRNA reports that during his recent trip to Nowshahr Engineer Felah, chief of the National Forests and Pastures Organization, said the cutting of thousands of forest trees and saplings planted in forest planting programs in the western part of the country to procure winter fuel by the residents of the region is huge destruction.

The fact that forests are both government and nongovernment and the dual approach taken by the National Forests and Pastures Organization are other problems in this area.

At the 35th meeting of the General Assembly of the United Nations in 1980, following extensive study and research in the area of costs and financial resources to prevent the spread of deserts and to revitalize some of the world's desert resources, it was announced that \$4.5 billion is needed annually to carry out this project and that by the year 2,000 it will cost \$90 billion.

In an unprecedented leap in the history of reforestation activities, this year the National Forests and Pastures Organization has produced 145 million saplings and through forest maintenance on more than 100,000 hectares it has revitalized some of the destroyed areas. Unfortunately, however, along with these activities has come the continued destruction of forests and pastures, and the soil erosion continues.

## ISRAEL

### Continuing Annual Increase in Air Pollution Noted

TA0604141592 Tel Aviv HA'ARETZ in Hebrew  
6 Apr 92 p A1

[Report by Eli El'ad]

[Excerpt] Air pollution increased throughout the country in 1991. A preliminary study by the Ecology and Environmental Protection Ministry of the total annual emission of various air pollutants stemming from burning fuel indicates a continuing annual rise in the degree of air pollution caused by three elements emitted mainly by vehicles: carbon monoxide, nitric oxides, and hydrocarbons.

The emission of carbon monoxide rose from 490,000 tonnes in 1990 to 523,000 tonnes in 1991.

As for the emission of lead particles originating in gasoline, which pose a grave health hazard to children

and adults with high blood pressure, the report states that despite the significant drop recorded between 1987 and 1990, the level of the emission rose again in 1991, although the quantities are still much lower than those prior to 1987.

The rise in the emission of carbon dioxide continues. In 1991, some 9.7 million tonnes of this pollutant were emitted into the air in Israel—about 3 percent more than in the preceding year. This pollutant can potentially cause atmosphere overheating.

A drop was recorded in 1991 in the emission of sulfur dioxide, originating in power stations and refineries. The drop stems mainly from the implementation of a report by Prof. Hayim Harari, the Weizman Institute president, who recommended that the maximum rate of sulfur in crude oil be reduced from 2.7 to 2.5 percent. [passage omitted]

#### **W. Bank Jewish Authorities Establish Joint Ecological Unit**

TA1004114392 Jerusalem THE JERUSALEM POST  
in English 10 Apr 92 p A4

[Report by Liat Collins]

[Text] An Environment Ministry plan to establish a union among local authorities in Judaea to provide environmental protection services was approved this week.

The heads of six local authorities in Judaea—Ma'ale Adumim, Efrat, Upper Betar, Qiryat Arba', Etzyon Bloc and Mount Hebron—agreed to the proposal at a meeting with Deputy Environment Minister Yig'al Bibi.

The ecological unit, which will be funded by the ministry for the first year, will deal with issues like sewage, noise, industrial control and environmental educational programs.

The Judaeen unit joins an umbrella organization of 22 local environmental units in the Municipal Union for the Environment comprising 140 workers.

Ministry deputy director general Dr. 'Amram Proujnin said the union and not the ministry would decide whether the unit will be built in Qiryat Arba' or Ma'ale Adumim.

Bibi said the unit would give the local authorities the professional means to treat environmental problems, while saving resources and avoiding red tape.

Several council heads voiced complaints about the Jerusalem Municipality during the meeting, citing the problem of untreated sewage which runs into the wadis leading to the Dead Sea. They claim that apart from its smell, the sewage is a breeding ground for mosquitoes.

They also complained that garbage was strewn along the sides of the roads leading to the city's garbage dump in Bethany, near Ma'ale Adumim.

The unit will deal only with the problems falling within the jurisdiction of Jewish settlements.

#### **SAUDI ARABIA**

##### **Official Details Government Agriculture, Water Subsidies**

92WNO379A Jeddah 'UKAZ in Arabic 8 Mar 92 p 13

[Interview With Dr. 'Abdallah al-Mu'ammam, Agriculture and Water Ministry Undersecretary for Agricultural Affairs, by 'Abd-al-Hafiz al-Shammari; date and place not given: "Kingdom's Generous Subsidy for Agricultural Sector Behind Self-Sufficiency; 24 Agriculture Directorates Oversee 113 Branches Serving Farmers; 183 Dams With Capacity of 450 Million Cubic Meters in Kingdom; Water Scarcity One of Most Significant Obstacles We Have Worked To Overcome"]

[Text] The kingdom's agricultural sector is one of the most important production sectors. and has enjoyed the interest and care of the government of the custodian of the two mosques, may God preserve him, out of its full awareness of the extreme strategic importance of this sector and of the major role it plays in serving comprehensive economic development by achieving self-sufficiency in the various food areas.

As a result of this wise policy, the country has witnessed the greatest agricultural experiment—an experiment in which numerous accomplishments have been made in record time. Large tracts of barren desert lands have been transformed into a vast green expanse, thus amazing all experts and all observers of this unique experiment, which has transformed the kingdom into a first-class agricultural country, despite the scarcity of its water resources.

To record the dimensions and significance of this experiment and the problems now facing the agricultural sector, 'UKAZ has conducted this interview with Dr. 'Abdallah al-Mu'ammam, Ministry of Agriculture and Water Resources undersecretary for agricultural affairs. This is the first comprehensive interview with Dr. al-Mu'ammam since he assumed the responsibility for this sector in the ministry.

Following are details of the interview:

##### **General Strategy**

[Shammari] The kingdom has seen great agricultural development. The kingdom's production of a number of agricultural products, such wheat, barley, meat, and eggs, has increased as a result of the constant encouragement this sector has received. We have achieved self-sufficiency. So what is the current and future political policy?

[Mu'ammar] The agricultural sector programs go along with the general strategy of the fifth development plan. They focus on diversifying the agricultural production base; turning the wheel of scientific and technological progress in the areas of agricultural production and water and livestock resources; establishing and developing scientific research centers; encouraging the private sector to establish firms that use modern agricultural methods while continuing to encourage individual investment in agriculture; and working to increase efficiency of the programs to enhance production levels so as to realize the maximum economic yield from the services and facilities provided by the Ministry of Agriculture and Water. The programs also focus on a productive national workforce by providing concerted training at the various levels and by sending people for training abroad so as to continue to create a real change in the country's economic structure, to preserve and maintain the national resources, and to work to develop these resources.

#### International Marketing Channels

[Shammari] Is the Ministry of Agriculture and Water thinking of launching an operation to market some agricultural products, besides wheat?

[Mu'ammar] The kingdom is adopting the liberal economic system, which permits the free external sale of all unsubsidized commodities. It is known that the Ministry of Agriculture and Water doesn't export any commodity for its own benefit. Rather, it encourages the private sector to increase production and improve its quality, and the ministry facilitates the means and removes the obstacles facing producers, so that surplus domestic production can be exported to foreign markets. The ministry also helps to open international marketing channels for Saudi agricultural commodities. All this has led to increasing the exported volume of such commodities. In 1990, this volume was 1.6 million tons, compared to 154,000 tons in 1984. The exports amounted to nearly 1.346 billion Saudi riyals in 1990, compared to just 315 million riyals in 1984, meaning that the value grew more than fourfold. These exports include various types of agricultural products, both food and non-food products.

In 1990, the kingdom's livestock and poultry meat exports amounted to 1,294 tons valued at 7.8 million riyals; its vegetable exports to 10,543 tons, valued at 14.8 million riyals; its date and other fruit exports to 32,020 tons, valued at 68.5 million riyals; its egg, dairy, and dairy derivative exports to 29,420 tons, valued at 139 million riyals; and its fish exports amounted to 1,152 tons, valued at 9.7 million riyals. All this was a result of the development undergone by the agricultural sector. This development has led to a high degree of self-sufficiency in numerous food commodities and to the availability of a surplus for export in these commodities.

#### Production Cost

[Shammari] It is known that wheat is purchased from joint-stock agricultural companies at a price of 1.5 riyals/kg. Private companies and individuals produce more than some joint-stock companies. What are the bases for determining prices, and why isn't price determined on the basis of the volume produced?

[Mu'ammar] The Ministry of Agriculture and Water has conducted numerous economic studies and research, most significantly, the study conducted on wheat production costs in various parts of the kingdom according to the variety produced. The study results were used as an economic indicator to determine the incentive price for purchasing wheat from farmers. The study also shows that the cost per unit produced by agricultural companies is lower than the cost per unit produced by individuals. This is due to the resources available to agricultural companies.

Even though the productivity of some private companies and individuals is higher than that of joint-stock companies, the total dimensions of projects belonging to these companies are greater than those of projects owned by private companies and by individuals, keeping in mind that joint-stock companies produce a variety of commodities, both plant and animal.

Therefore, some cost items—such as management, equipment, maintenance, and so forth—are divided among the various activities found within these projects, thus dropping the joint-stock companies' production cost per unit of wheat to a lower level than the cost per unit in projects belonging to private companies and individuals.

#### Production Diversification

[Shammari] Now that wheat cultivation has been successfully transplanted into the kingdom, that the kingdom's production has amounted to more than 3 million tons annually, and that large quantities are exported, what reasons are there for continuing to subsidize the cultivation of a volume that exceeds the kingdom's needs more than three times over?

[Mu'ammar] Since ancient times, the kingdom's farmers have planted local low-productivity varieties of wheat that are susceptible to breakage and that cannot endure the kingdom's harsh climatic conditions. Through research centers spread throughout the kingdom, the ministry has conducted research and experiments on local and international varieties, with the objective of developing high-productivity varieties capable of withstanding the kingdom's climatic conditions, especially short-stem varieties that are not susceptible to breakage.

The ministry has also promoted the cultivation of improved varieties by purchasing the crop produced by farmers at attractive incentive prices so as to achieve self-sufficiency in this strategic commodity. The ministry has also done this out of the kingdom's belief in



ensuring food security for its citizens and in surpassing this phase to contribute to providing food to the world population, in compliance with the UN FAO [Food and Agriculture Organization] appeal for increased food production in order to keep pace with the constant growth in world population.

Moreover, the ministry has not neglected production diversification. It has encouraged the cultivation of other crops, besides wheat. It is part of this ministry's strategies to draft programs to develop the production of some crops, such as potatoes and barley. Barley production has increased recently, rising to nearly 362,000 tons in 1990, compared to 4,000 tons in 1985.

#### Development Methods

[Shammari] What role does the undersecretariat perform in developing some crop varieties?

[Mu'ammar] The most important method of developing agriculture is to reach the farmer in his field, to find out what problems he experiences, and to find successful solutions to these problems. In this regard, the ministry has established 24 Agriculture and Water Directorates that oversee 113 agricultural branches spread throughout the kingdom. These directorates and branches provide all agricultural and extension services to the kingdom's farmers in a number of ways, including:

- On-the-spot visits made by agricultural engineers and technicians to the farmers in their fields to give farmers hands-on training in modern agricultural methods and to service crops before and after cultivation;
- Training farmers in the correct use of pesticides; Moreover, the ministry's teams fight crop diseases for small farmers.
- Supplying farmers with agricultural magazines, publications, and simplified instructional agricultural films, which contribute greatly to the proper application of agricultural methods and to increased productivity; Radio and television programs are also produced to guide and educate farmers.
- Introducing the concept of crop rotation (avoiding the cultivation of one specific crop for several successive years) and the importance of adopting this rotation to maintain soil fertility;
- Familiarizing farmers with whatever is new in the world of agriculture, including seed varieties, pesticides, and agricultural machinery—all of which contribute to reducing cost and enhancing productivity;
- Implementing ceaseless programs to spread improved fruit-tree varieties that are compatible with the conditions of each province; The ministry has established numerous specialized nurseries that work to provide farmers with the seedlings they need at incentive prices.
- Distributing among farmers varieties of honeybees that befit the kingdom's conditions; In addition to their importance in providing honey, bees also perform the pollination process in citrus groves and fruit

orchards. In this regard, the ministry has established several centers for the production of beehives and queen bees.

- Implementing programs to proliferate grapevine varieties befitting the country's conditions;
- Working to resolve farmers' marketing problems by establishing a special marketing office in every directorate and branch to supply farmers with the prices of various crops in the central fruit markets and to coordinate with the Ministry of Transportation in setting priorities for agricultural road construction;
- Encouraging farmers to breed livestock by having the ministry produce veterinary vaccines and supply them to breeding projects free of charge; vaccinating the citizens' sheep herds and other livestock, provide veterinary care, and supplying farmers with veterinary pharmaceuticals free of charge.

The ministry also adopts certain agricultural policies that direct farmers toward cultivating certain crops. One policy adopted by the Ministry of Agriculture and Water is to distribute land, free of charge, to farmers and investors in the agricultural sector in accordance with the Fallow Land Distribution Law, so that they will set up individual projects to produce one or more varieties of agricultural products, both animal and plant products.

There is also the incentive crop-purchase price, such as the prices for dates (three riyals per kg), wheat (two riyals per kg), and barley (one riyal per kg).

This is in addition to the subsidy given to producers for the production of a certain crop, such as corn; and which is paid for date tree farmers at the rate of 50 riyals per high-quality seedling. All this helps farmers focus on developing certain agricultural crops.

#### Generous Subsidy

[Shammari] How do you see farmers' and investors' interest in the agricultural field this year as compared with past years, especially in the area of loan applications and applications for approval of agricultural projects?

[Mu'ammar] As a result of the generous subsidy given by the government of the custodian of the two holy mosques to the agricultural sector, self-sufficiency has been accomplished in a number of food commodities, such as wheat, dates, fresh milk products, eggs, and other commodities. This subsidy has motivated farmers and agricultural investors to offer to invest in agricultural projects in areas in which we haven't yet achieved self-sufficiency, such as barley, fodder, and fruits. The number of permits issued to such projects in the 1411 Hijrah (1990) amounted to 403 permits for the production of 446,000 tons of barley, 600,000 tons of fodder, and 51,000 tons of fruit.

Reports issued by the Saudi Arab Agricultural Bank indicate that, in 1410 Hijrah (1989), total loans granted to farmers amounted to 854.3 million riyals, compared to 754.5 million riyals in 1409 Hijrah (1988), i.e., they grew by 13.2 percent. These sums were channeled to



finance 196 specialized agricultural projects, including 95 projects for fodder production.

Aid given to farmers in 1410 Hijrah (1989) amounted to 259.5 million riyals, compared to 268.2 million riyals in the preceding year. This aid was channeled toward machinery, pumps, and modern irrigation equipment.

[Shammari] What are the obstacles impeding success, considering the available resources in the area of agriculture?

[Mu'ammara] The agricultural sector has encountered numerous obstacles. The Ministry of Agriculture and Water has worked to overcome these obstacles by conducting detailed studies and selecting the best means and methods to eliminate them. These obstacles include the following:

The Kingdom of Saudi Arabia is one of the world's biggest countries in which no rivers run. Moreover, the average annual rainfall is low, amounting to 95 mm. But this average is high in the southwestern part of the kingdom. Considering that water is the most important element of life, the Ministry of Agriculture and Water has undertaken the task of exploring for and drilling for water sources, and determining water resources by exerting efforts in two directions:

First, regulations have been established for drilling wells, and they differ from province to province, depending the nature of the water-bearing strata.

Second, water resources are being developed by doing the following:

**Building dams:** 183 dams were built by 1990, with a storage capacity of 450 million cubic meters. These dams are located along streams in various parts of the kingdom and they are built for various purposes. Some are intended to replenish underground water, some are to protect farms and populations from floods, and some are for drinking water.

**Recycling sewage water:** The country's 24 desalination plants, spread all along the kingdom's coastline, supply

550 million cubic meters of desalinated seawater daily to provide citizens in towns and villages with drinking water. Sewage water produced by this population is treated and used for agricultural purposes.

[Combatting] low educational standard of farmers: This ministry has organized numerous training courses for farmers and their children in various parts of the kingdom. A total of 1,125 trainees benefited from these courses by 1410 Hijrah (1989). The courses covered the various aspects of livestock and plant production, as well as honey production. Through the various media channels, the ministry provides guidance services to farmers by devoting a television program and a radio program to farming, in cooperation with the Ministry of Information. The ministry issues an agricultural information pamphlet and distributes it to farmers, not to mention the other information activities provided by way of the press and other channels.

**Small size of agricultural holdings:** There are 240,000 agricultural holdings in the kingdom, with an estimated acreage of 13.5 million dunams, meaning that the average size of a holding is 56 dunams. But in the southern parts, the size is below the this average.

It is known that the smaller the size of the holding, the greater the cost per production unit. Consequently, profits earned by the farmer decrease. This is why the ministry has encouraged the creation of joint-stock agricultural companies, limited-liability companies, and individual projects specialized in crop or animal production. The ministry has done this by giving investors fallow lands free of charge and by providing interest-free loans and aid for equipment and some production requirements. In 1990, there were 1,062 wheat production projects, which produced 1.8 million tons of wheat. Moreover, 43 projects specialized in barley and produced an estimated 342,000 tons. There were 396 greenhouse projects, which turned out 117,000 tons of vegetables. As for animal production, there are 288 meat-chicken projects, which produced 208 million pullets that year. Egg-laying chicken projects produced 2,059 million eggs from 19 projects. There were 40 dairy projects which produced 284,000 tons of milk.

**CIS Environmental Policy Prospects Viewed**  
*92WN0359B Moscow NEZAVISIMAYA GAZETA  
in Russian 24 Jan 92 p 6*

[Article by Yelena Vylegzhanina and Yuriy Barsegov, Institute of World Economics and International Relations: "Will We Have an Environmental Protection Policy?"]

**[Text] In the West it is structured on a balance of market and command methods.**

It would be no exaggeration to say that we have never had a scientifically substantiated national environmental protection policy with well-developed strategic directions, supported by a legal and economic infrastructure. Just what did we have? There were five-and seven-year plans for economic development, in which the emphasis was placed on our supposedly inexhaustible natural riches. The idea of their careful preservation and rational use, if it even existed, did so in the form of general theses (just as meaningful, as the slogan "Protect the forest from fire!"). Environmental protection legislation remained and to this day remains entirely "toothless." Even the existing methods for material influence on violators, however laughably insignificant they may be, are not applied in practice.

The CPSU Central Committee and USSR Council of Ministers resolution "On Radical Restructuring of Work To Protect the Environment in the Country" was passed in 1988. The very fact that this was not a legislative act, but a document of the party and executive bodies, indicates that there could not have been any real restructuring at all.

More recently, a new attempt was made to draft and pass something large-scale in the ecological sphere: We refer to the Program for Preservation of the Surrounding Environment and Rational Use of Natural Resources of the USSR in 1991-1995 and in the Future Until the Year 2005. The draft included individual new elements and declared the priority nature of the problem. However, apparently this document was doomed to remain a draft: Independent states rose up in the Union's place and the five-year plans went into the past.

The collapse of the Union is still a factor that may seriously contribute to the degradation of the surrounding environment. Many see the division as an opportunity to bring order to their management of fairly scarce natural resources. However, the civilized world has already realized that preserving the biosphere and its components meets common interests: World practice has developed a significant set of means and instruments for coordinating policy and legislation concerning natural resources.

The area of environmental protection held a most important place in the economic policy of the EC, which

in the final account led to an expansion of the Community's function. The Rome agreement, initially not containing clauses regarding protection of the environment, was amended in 1987 with articles in which "the preservation, protection, and improvement of the quality of the surrounding environment; contributing to the protection of the population's health, and ensuring the careful and rational use of natural resources" were also established as basic goals of the Community.

In the practice of the EC, a preliminary assessment of the impact of economic activity on the surrounding environment plays a great role. Projects for irrigation and drainage installations, dams, forest development, and others require compiling a preliminary assessment of the ecological consequences, in order to safeguard the interests of states located lower on the flow or on the other bank. Intergovernmental consultations are held to determine natural objects, subject to special measures of protection.

The members of the EC are cooperating for purposes of coordinating systems for monitoring, particularly of the ecological state of shared bodies of water, with the object of interconnecting the disposal of dangerous wastes and water quality according to EC standards.

Neighboring states are obliged to participate in measures to eliminate the consequences of pollution in bordering regions.

Agreements of this kind are needed between the former Soviet republics, it seems, and many such could be concluded even now.

In the U.S. and Western countries, ecological policy is structured on a balance of market mechanisms and command control or command administrative approaches. We have neither a civilized market, nor reasonable administrative regulation. It goes without saying, we will be unable to create in a few months that which took the "countries of capital" several decades, and they did not start from zero. However, borrowing "their" experience, even now it is possible to designate the goals toward which we must strive. A realistic and skilled evaluation of natural resources, the determination of resources not subject to private ownership or to the introduction of strict fine penalties, the creation of control mechanisms, and the development of licensing and concessionary legislation are needed. The legal status of free enterprise zones requires special examination.

From the start, we must involve entrepreneurial circles in solving nature-preservation problems. In the West, the participation of private enterprise in this area is growing and even includes multinational corporations. Under our conditions, one of the first steps in this direction could be to start consultations ("roundtables," conferences, etc.) at various levels of executive power with the participation of domestic and foreign entrepreneurs and specialists.

The main thing is to give a new direction to the development of legal regulation: The reference point should be not the use of nature in the interests of economic growth, but the creation of a habitat worthy of man. In the U.S. and in Western Europe, and in many other countries there are laws on the preliminary assessment of economic activity, the sense of which is that before starting work of any kind the population is informed in great detail about these plans and their ecological consequences, discusses them, and its opinion serves as a decisive factor in making the final decision. Interestingly, according to the Belgian law on preliminary assessment, the king, in signing a draft for implementation, does not have the right to introduce any changes in that which was agreed on with the population of a region.

Introduction of a system of evaluation is also necessary from the viewpoint of the former republics' relations with other countries. This would raise our cooperation in the protection of the surrounding environment to a fundamentally new level, would turn us into an equal partner, and would bring us into the circle of states, where competent ecological policy is one of the national priorities.

#### **Russia To Continue Nuclear Testing**

*OW0104191192 Moscow INTERFAX in English  
1833 GMT 1 Apr 92*

[Following item transmitted via KYODO]

[Text] At a meeting with leaders of the international movement "Medics of the World for the Prevention of a Nuclear War" first deputy chairman of the Russian government Gennadiy Burbulis said that Russia will continue to conduct nuclear testing. The statement was made in response to the movement's nuclear disarmament program, including a proposal to stop nuclear testing. Burbulis emphasized that the government bans tests which directly affect the atmosphere and other vitally important spheres. He said only tests essential for scientific and other research will be conducted. Burbulis acknowledged the existence of "certain confrontation" between specialists and the government. However, he noted, these are normal differences, and the government will never allow the preservation of "the nuclear evil" only to ensure that somebody could hold his favorite post.

Burbulis pointed out that Kazakhstan, Ukraine and Belarus are just states on which territories nuclear weapons are stationed, while Russia is the country having the sole control over all these weapons.

Asked if Russia would follow suit if the U.S.A. stopped nuclear testing, Burbulis said: "I think they will have to follow suit".

#### **Vice President Rutskoy To Head Delegation to Rio Earth Summit**

*OW1305111592 Moscow INTERFAX in English  
1001 GMT 13 May 92*

[Following item transmitted via KYODO]

[Text] Russian Vice-President Aleksandr Rutskoy will head Russia's delegation to the final part of the UN conference on environmental protection which will be held in Rio de Janeiro from June 3 to 14.

The delegation will include Minister for Ecology and Utilization of Natural Resources Victor Danilov-Danilyan, and representatives of nature-conservation bodies.

The conference will be held at the level of heads of state and government and is expected to produce a number of global environmental-protection documents.

The Russian Foreign Ministry reports that during his stay in Rio de Janeiro Aleksandr Rutskoy will meet with the leaders of the delegations of other countries.

#### **Danilov-Danilyan on Structure, Tasks of Russia's Environment Ministry**

*92WN0381A Moscow SPASENIYE in Russian  
No 1, Jan 92 p 2*

[Interview with V. Danilov-Danilyan, by Yuriy Michurin, under rubric: "Who's Who": "The Third Minister"]

[No 1, Jan 92, p 2]

[Text] Where the Cabinet of Ministers Is Now. A Story About a Misprint. Ministries or Maxistracies? Water...Who Owns It. Who Is To Tend the Herring. A Regulated Market—There Is No Other. Scientist By Vocation, Politician By Position.

In the new Russian government, the new minister of environmental protection, the third one in this department, is Viktor Ivanovich Danilov-Danilyan. He was born in Moscow in 1938. He is a Russian, a doctor of economic sciences, and a professor. He is well known as an economist who engages in questions of use of natural resources, in economic cybernetics, and in market relations. As early as the 1970's he was developing ideas of the cost-accounting independence of enterprises and the introduction of payment for natural resources. In recent years he worked at the Academy of the National Economy, under the USSR Council of Ministers, and headed a department of ecology. Approximately a half-year ago he was invited to USSR Minpriroda [Ministry of the Environment] as a deputy minister. And now he has a new assignment.

The minister met your correspondent in his new office, into which he had moved the day before. The office is situated in the former USSR Mingeo [Ministry of Geology]. This circumstance gave a reason for returning to a subject that we have already dealt with in our

newspaper—exactly what is the name of the ministry? At least, recently in IZVESTIYA V. Danilov-Danilyan was introduced as the minister of geology and use of natural resources.

[V. Danilov-Danilyan] The exact name is [ministry] of ecology and natural resources. That which at first was written "geology" was named by B. N. Yeltsin from the rostrum of the Russian Supreme Council with a misprint. In the President's Ukase, amidst the other organizations on the basis of which our ministry was formed, the RSFSR Ministry of Geology also figured. In all probability, that is what gave rise to the misprint. In addition, the term "use of natural resources" [*prirodopolzovaniye*] in the name was erroneous. The correct term is "natural resources" [*prirodnnyye resursy*]. Because we are not users of natural resources. Rather, we must administer the natural resources, that is, monitor the users themselves.

[Yu. Michurin] All right, then, we have analyzed all the misprints and mistakes. Let us now discuss who you have replaced and on whose base you were formed...

[V. Danilov-Danilyan] Eleven former union and republic ministries and departments became part of our makeup completely. In Russia these are the ministries and committees of ecology, geology, water management, and timber management, and the administration of geodesy and cartography. The union ones are: Goskondromet [State Committee for Hydrometeorology], analogues of the previously mentioned republic ministries, as well as the Commission for the Arctic and Antarctica.

[Yu. Michurin] What about the former USSR Minvodka [Ministry of Water Management], that has now become a concern?

[V. Danilov-Danilyan] It remains independent and must change over to the jurisdiction of Russia. It will engage in hydraulic construction. The monitoring of the ecological state of water resources will become the function of the Committee for Water Resources that is currently being reorganized. In addition, the makeup of our ministry will include four more committees: the Committee for Geology and Mineral Resources, the Committee for Forests, the Committee for Geodesy and Cartography, and Gidromet [Committee for Hydrometeorology].

All these committees, with their subdivisions, will be preserved as legal entities, and their chairmen, *ex officio*, will be deputy ministers.

Changes of this kind should not even be called a reorganization. Rather, it is a different scheme of co-subordination within the framework of the government. Inasmuch as there remain only a few ministries within its structure, their functions are expanding. As a joke I have even begun calling them "maxistracies" [inflated magistracies].

In my opinion, such changes on the governmental level are completely justified. Because this makes it possible not only to preserve the viable part of the apparatus of the republic departments that are being abolished, but even to reinforce them at the expense of the liquidated union agencies. True, here too not all the questions have been resolved. For example, it is not yet clear who will be given the responsibility of monitoring the land resources. Until recently this was the function of the former Committee for Land Reform, but, essentially speaking, not a single department engaged in the protection of the soil.

[Yu. Michurin] Should such a committee be part of your structure?

[V. Danilov-Danilyan] Of course. Otherwise we shall see once again the continuation of the shameful practice when one and the same legal entities use the land and also monitor themselves. All the ecologists unanimously insist that the Committee for Land Resources should not be part of RSFSR Minselkhoz [Ministry of Agriculture].

The fate of the fish industry remains in dispute. According to market logic, those enterprises that engage in fishing should become independent, and that makes unnecessary the existence on the whole of the Ministry of the Fish Industry. But the monitoring of the use of fish reserves and the reproduction of valuable species of fish, as well as the observance of international agreements relative to the catching of fish in the World Ocean, must all be concentrated in a single subdivision that belongs to our ministry. But the organization that wants to undertake all these functions is the very same Minselkhoz, and that is completely unfounded. So, as you can see, our ministry is still in the formative stage.

[Yu. Michurin] Nevertheless, one can already say that, with regard to its structure and functions, the present ministry differs advantageously from the previous one. Hopefully, this will also have an effect in the practical activity. But perhaps the effectiveness of the new administrative agency could be even higher if the ministry possessed special status. For example, if it became part of the government. Or if you, like the previous ministry of ecology, had the rank of deputy prime minister.

[V. Danilov-Danilyan] Let's recall that the question of the place of the highest ecological agency was raised at a time when all the enterprises were directly subordinate to ministries and departments. And at that time the inclusion of such an agency into the structure of the government actually put it in a subordinate position to the users of the natural resources.

Now, however, the ministries in their present form must only monitor the activity of the enterprises. Within the next few months we hope to achieve this. It is precisely by the aspect of monitoring that our ministry will differ fundamentally from the others, rather than by the type of interrelationships with the enterprises. Thus, the present structure seems to me to be satisfactory, and foreign



experience also convinces me of this. There the environmental-protection departments of this kind are invariably governmental agencies. We too shall follow those standards that have recommended themselves excellently in the market structures to which we ourselves are converting.

[Yu. Michurin] Now that we have begun to talk about the market, how do you see it now? Not from the position of an economic scientist, but from the position of a state figure?

[V. Danilov-Danilyan] I am a consistent adherent of market relations, but at the same time I recognize the necessity of state influence upon the economy. Today there are a few people who make ironic remarks about the term "regulated market system," but I consider that to be a sign of economic illiteracy. Because in the civilized world there simply does not exist another market system, and certain theoreticians feel that the market, in one form or another, was always regulated from the moment of its birth. Otherwise it gives rise to forces that will destroy it.

It is another matter that market relations cannot be introduced by a procedure of imposing one's will. They must extend to those spheres where society itself is ready for those relations: spheres pertaining to the level of awareness, the legal base, the development of social and economic structures. In our society the readiness, so far, is by no means complete, and therefore the administration of the ecology should not be put on a market basis immediately or in all respects. You can imagine what will happen if the trade in natural resources is made someone's property. Do you really think that, at the present time, it is possible to be convinced that we are capable of managing intelligently so that, in a self-regulating system, we can preserve our natural habitat for our descendants?

[Yu. Michurin] Nevertheless we chose that path of development, after rejecting socialist construction. Therefore the people who are currently in power are people of different convictions than those who were in the previous government. But, by convictions alone, we shall not carry out the planned reforms. It is also necessary to display other qualities. In one of your books, "Begstvo k rynku" [Flight to the Market], you yourself wrote that, with the changeover to the market, the decisive word should belong not to science, but to politics—the art of the possible. Will you succeed in coping with the role of politician, a person who currently is indispensable?

[V. Danilov-Danilyan] I have to resolve political questions every day. The structures of the executive authority have been so weakened that the situation in the outlying areas has been completely unmonitored. The centrifugal forces thus are arising where national conflicts were never previously observed. In the final analysis, everything is being reduced to a situation in which, in the outlying areas, the attempt is being made to seize the

monitoring of the local resources, to expropriate the forests and the water, and even to encroach on the environmental-protection agencies themselves. But we will not allow a state oblast committee for environmental protection to become an agency of local administration.

This kind of information, I repeat, reaches me every day. Sometimes we encounter completely absurd situations, for example, when, at the oblast level, people want to take into their hands the hydrometeorological service. But in order to get a local weather forecast it is necessary to get information from everywhere, including the Antarctic.

The complexity of the job, however, does not consist in having to encounter such situations. At the present time there is almost no freedom of choice. It is necessary at times to seek the only acceptable decision, a decision that is not simply one that is based on some general logic that has been tested many times in various situations, but also the only suitable one with a consideration of the uniqueness of our development. In this regard I am helped by the nearness of science, in which I have engaged for my entire life. I had the opportunity to work, as long ago as 1977 and 1978, on the draft of economic reforms that are similar to the current ones, and also on other governmental documents. True, all the work went right into the waste basket, but that was typical of those years. In practical life, however, it was necessary to realize all one's capabilities by participating in various bodies of experts. But what is politics, if not the taking of the concrete situation into consideration?

"So, the experience of my previous work proved to be of use for me when I came to USSR Minpriroda. At least I did not feel that I was in an unfamiliar situation. Naturally, in the new job I am always learning something every day. But I have always done that in any job."

That ended our conversation. Unfortunately, in the time that had been prearranged for our meeting, I did not manage to touch upon many problems that are troubling everyone today. The minister had other matters to attend to. However, he himself considered our meeting to be uncompleted.

"I would like to continue our conversation," Viktor Ivanovich said, "and discuss with you the next time certain fundamental directions that we are taking in the work of the ministry, that are completely new for our ecological service."

We agreed that we would meet again in two weeks.

[No 5, Feb 92, p 2]

[Text] As promised, your correspondent Yuriy Michurin met with the minister of ecology and natural resources of Russia, Viktor Danilov-Danilyan, again in order to learn from him which tasks the new nature protection department has assumed and how they will be performed.



[Danilov-Danilyan] Before I tell about what fundamentally new things our Ministry will be involved in, [Viktor Ivanovich began the talk.] I want to mention the directions which were priority ones even before this. First of all we will continue to develop all forms of economic regulation of nature use. Above all that means a system of taxes and payments for resources.

Developments have already been made in this area; the entire packet of documents is now being reviewed in the Ministry of Economics and Finances of Russia and after that we will present our own proposals to the government. Aleksandr Anatolyevich Averchenkov, who was approved as my deputy on economic issues, is now directly involved in this work.

[Correspondent] Your new deputy is certainly familiar to us—he was one of the first authors of our newspaper. Who else is part of your team?

[Danilov-Danilyan] Yuriy Mikhaylovich Arskiy was appointed my first deputy. He is a corresponding member of the RAN [Russian Academy of Sciences] and a specialist in mining and geological problems and their ecological analysis. He used to work as chairman of the state expert review panel of the USSR Ministry of Economics and Forecasting. And in our Ministry he is head of the expert review panel and also oversees the commission on mineral reserves.

The other deputies: Pavel Petrovich Anisimov manages finances, cadres, material-technical support, and capital construction.

Nikita Fedorovich Glazovskiy is a doctor of geographic sciences. He was and continues to be the deputy director of the Institute of Geography. Two directions are under his jurisdiction: first, specially protected territories and, second, protection of soils and land resources.

Oleg Stepanovich Kolbasov is a corresponding member of the RAN and former deputy director of the Institute of State and Law. Naturally, all the juridical support of our activity as well as international ties are under his jurisdiction.

There are two other posts of deputy minister which are for the time being vacant.

But let us continue talking about what we started with—the basic aspects of our activity. As before one of them continues to be scientific-technical policy in the field of ecology. Using it we must effectively influence the development of the economy from the standpoint of ecology and also engage in what is called in the West “nature restoration.”

[Correspondent] Will there be some special “restoration” subdivision?

[Danilov-Danilyan] It is a task of several subdivisions. The administration of scientific-technical progress plays

an important role here. Developments in all the long-term problems are in one way or another related to its activity.

[Correspondent] And who will undertake to monitor the activities of the army and the military-industrial complex [MIC]? The military occupies up to 3 percent of Russia's territory, which nature protection services used to have no access to. I know that it was proposed that you form an administration on the conversion and ecological problems of the MIC.

[Danilov-Danilyan] It is easier to talk with the military now, since they understand very well that they have no special rights to nature and that an irresponsible attitude toward it may lead to very serious consequences. We have already had such a sad experience answering for the economic damages inflicted by our troops while they were in the former socialist countries of Europe. Sometimes we are presented with absolutely fantastic bills.

[Correspondent] But our experts have already corrected them.

[Danilov-Danilyan] That work is not completed yet. Very real bargaining is going on about the method of compensation for the damages: with money, with equipment, or with structures left behind.

[Correspondent] Who will assume the burden of these expenditures? Russia? Or will we divide them fraternally with the CIS?

[Danilov-Danilyan] It has not been definitely decided. But I do not believe that Russia should assume all debts, and we are still intending to discuss this problem with the independent states.

As for the special subdivision to monitor the activities of the MIC and the army, in my opinion there is no special need for this, since these functions may be distributed among the various administrations, depending on their nature.

Our next main direction is ecological programs. They include long-term ecological forecasting of economic development, which no one is involved in today.

[Correspondent] An ecological forecast for the coming years was prepared in the All-Union Scientific Research Institute of Nature Protection. We have started publishing it.

[Danilov-Danilyan] I am familiar with this work and value it highly. It will help us perform the tasks posed, just as the experience which has been accumulated in the former Union Ministry of Nature, where at one time an ecological expert panel study was conducted of the 5-year plan of the country's development for 1991-1995, will. So we have a very good idea of which questions we must seek answers for.

In addition to the forecasting, we will develop special programs of ecological normalization of particular territories and provide nature conservation production facilities in certain sectors of the economy.

Let us assume the initiative for scientific, organizational, and in some places financial support of these programs.

[Correspondent] We must obviously begin by identifying the ecological disaster zones.

[Danilov-Danilyan] That is absolutely right, but the main thing is to prevent something like what we now have in Chelyabinsk Oblast or Kalmykia. We must sound the alarm much earlier.

Given the economic reforms we attribute important significance to ties with commercial structures—banks and stock exchanges to form and develop the market in ecological and “ecologically safe” [ekologichniy] products. By the first we mean output which supports certain nature conservation functions. But ecologically safe output of itself must meet certain standards from the standpoint of its safety in relation to nature. This means, for example, food products, packaging, and the like.

[Correspondent] From what you have said we can draw the conclusion that the Ministry will support ecological entrepreneurship.

[Danilov-Danilyan] Absolutely. There will even be a special department in our economic regulation of nature use administration—development of the market in ecological goods and services. There is a wealth of work to be done here. For whereas overall we are just beginning to form a market infrastructure in our country, you cannot even say that about the ecological market. It very often happens that an enterprise which manufactures, say, measuring devices will experience serious difficulties in marketing its output, while the potential consumer does not know where to buy it. And the whole point is the lack of information.

We are undertaking to be the intermediaries here and we will be involved in marketing. The forms of work may be the most varied. For example, I propose to regularly hold a roundtable of “green” bankers and entrepreneurs where people can find out everything that a business person involved in ecological entrepreneurship needs and even conclude contracts.

I want to mention also that in addition to the clearly inadequate attention given to the ecological market, the very same attitude exists for the time being toward industrial ecology. Above all this relates to problems of setting norms and standards. For the most part our country sets norms for discharges and run-offs. We now have a whole list of acronyms—PDK [maximum permissible concentration], PDV [Maximum Allowable Emission], and VSV [Temporarily Coordinated Emissions], while throughout the world the preference is to set norms according to the final result—output produced.

We must also build our own system to regulate the fate of solid wastes. We have never had that before.

[Correspondent] Finally I would like to hear from you, Viktor Ivanovich, answers to a number of questions which are very topical, as they say. Reports have appeared in newspapers that the Russian weather forecasting service is in danger of being closed. Its financing was cut off at the end of last year and the wages there are too low to keep people.

[Danilov-Danilyan] All that is right. This situation occurred because when the Union structures were broken up there was no analogue to the USSR State Committee for Hydrometeorology left in Russia and the forecasting service seemed to be forgotten. Moreover, the wages in Hydrometeorology were the lowest in our entire sector. The former State Committee for Hydrometeorology is above all to blame for what happened. But we are the ones who must correct the mistakes. I was discussing this problem with Aleksandr Nikolayevich Shokhin, the Russian minister of labor and employment, and enlisted his strong support for raising the wages of the hydrometeorology workers to the level of other nature protection services.

[Correspondent] Incidentally, some local nature protection service offices do not feel so very comfortable. People from Novosibirsk called our editorial office recently and reported that the workers of the oblast committee on nature protection will be discharged in February by order of the local administration head.

[Danilov-Danilyan] We encounter such zeal of local authorities, unfortunately. I already talked about that. All that is happening because of the complications with financing and imprecise interpretation of the Law “On Local Self-Government.” No one has the right locally to do such things in relation to our nature protection service offices.

We have now prepared the appropriate documents to explain the real state of affairs. Our position remains unchanged. There must be a vertical link between local and republic nature protection organs. All cadre questions, structural changes, and the like must necessarily be resolved by the Ministry with the agreement of the local organs of power.

Incidentally, in many oblasts there is a trend toward integration of various nature protection service offices, which I believe is fundamentally right. It is much easier to resolve many problems, including those of material-technical support, by uniting.

[Correspondent] So a regional system of nature protection service offices may appear in the future?

[Danilov-Danilyan] World experience has shown that local integration does not disturb division of functions on the higher level, that is, among committees in our Ministry. Practice will suggest what will work out, but for

now the appropriate association of service offices is working successfully in the autonomous republics.

[Correspondent] But the processes of integration of nature protection organs must most likely be viewed even more broadly, within the framework of the member states of the CIS. Otherwise, how will such problems, say, as cross-border contamination and issues of monitoring be resolved?

[Danilov-Danilyan] For now I can only say that a draft interstate agreement on problems of ecology has been prepared.

In my opinion this document absorbed all the best that has been developed in this field in recent times. At any rate we are already prepared to sign this agreement now. On its basis we will also build our relations, although in general cooperation within the framework of the CIS has already begun here and it is the International Cooperation Administration which is mainly involved in this work.

#### **Environment Minister Views Russia's Ecological Program**

92WN0395A Moscow KURANTY in Russian  
12 Mar 92 p 4

[Interview with Viktor Ivanovich Danilov-Danilyan, Russian minister of Ecology and Natural Resource Use, conducted by Igor Gansvind, KURANTY correspondent: "We Are Going To Cure Russia's Environmental Sores"]

[Text] *The new minister of ecology and natural resource use left behind a solid career and his scientific work in order to apply his market ideas in practice. Today he answers questions from a KURANTY correspondent.*

[Correspondent] Viktor Ivanovich, when IZVESTIYA introduced you it reported that you study mathematics as applied to the economy. How did you get involved with ecology?

[Danilov-Danilyan] I do have a mathematics education, that is true, but I feel that mathematical education is something extremely useful, as is for example a knowledge of foreign languages. I did in fact study economic mathematical methods through my entire scientific career, from 1960 through 1976. But I have long been involved with the economics of natural resources and environmental protection.

When I look at the practical problems in that area, I must admit that the level of our achievements is such that even without any mathematics whatsoever there is so much that remains undone that I ask God just to let me spend the rest of my life helping put into practice the purely qualitative findings which are already known and which are literally knocking at the door.

[Correspondent] Have you had any surprises in your new position?

[Danilov-Danilyan] Before being appointed to the post of minister I spent several months as USSR deputy minister of natural resource use and environmental protection. So on 10 November, when I received this appointment in the Russian Government, I had a good idea what kind of work it would be and what kind of problems I would have to deal with, as well as the means by which I would have to solve them and the framework within which the work of the Ministry of Ecology would be carried out. On the whole there have been no surprises.

[Correspondent] Yet it would seem to me that the biggest surprise is the new government's willingness to sacrifice all long-range financing for the sake of budget stabilization, including financing for the development of your ministry. How are you managing to make ends meet in such a dramatic situation?

[Danilov-Danilyan] If we now start lifting the already weak emission controls that we have, then it is quite clear that we could be saving R100,000 [rubles] while losing hundreds of millions or billions. An analogy: cut out the job of one militiaman, and as a result of his absence there could be several murders in his precinct that might not have happened otherwise, and a human life is priceless.

We are working hard to find a solution to this problem. Mainly we have sought out non-budgetary sources of financing.

[Correspondent] How might ecology pay for itself?

[Danilov-Danilyan] In 1991 Russia introduced fixed rates of payment for emissions into the environment. Those fees are distributed between environmental protection funds at three levels—local funds get 60 percent, oblasts and constituent republics within Russia get 30 percent, and the Russian Federation gets 10 percent. We have amended the Environmental Protection Law so that 10 percent of all fees are now going to maintain our oblast committees and their services. Last year emission fees totalled R1 billion. This year we plan to collect R10 billion. One billion of that will be for us. That portion will allow us to maintain our vertical structure and our close administrative ties with the oblasts and constituent republics of the Russian Federation and with local environmental protection services. Without that vertical structure the environmental service cannot work properly. That is true anywhere in the world.

[Correspondent] What portion of the budget is allocated for environmental problems in the developed countries?

[Danilov-Danilyan] Between 5 and 10 percent. By way of comparison, in 1989 the United States spent \$80 billion on environmental problems, while the former USSR spent a mere R9.9 billion.

[Correspondent] I could not even find an item for that listed in the first-quarter budget...

[Danilov-Danilyan] That is precisely the sad state of affairs to which I was referring: nothing has been set aside to maintain environmental protection services at the local level, in oblasts or in the republics, while the Ministry of Ecology itself is operating through central state administrative organs. So local services are unfunded. It has been proposed that they be temporarily funded out of oblast budgets, but it is quite clear what the results of that decision could be. Those services would become totally dependent on the oblast administrations, which could then get them to do anything they wanted. For example, many oblast administrations have laid hands on forest areas to which they do not in fact have any right whatsoever.

But there is also the paradox that the government is not able to completely cut off financing for certain areas. It turned out that shutting down geological survey expeditions would have cost several times more than having them continue to operate for a whole year. So geologists are still hanging on, though they have been cut back to a third of their former number. In that regard our independence has saved us. We have demanded that mining enterprises compensate for the cost of geological survey work. Now 10 percent of the value of every metric ton of raw materials mined must be paid as compensation.

A second non-budgetary source of income is connected with the fact that geologists not only do survey work, sometimes they also engage in mining. We have obtained permission to sell 2.5 million metric tons of oil abroad. Well, geologists extract 2.5 or even 3.5 million metric tons just in the process of operating experimental wells in potential new oil fields. I feel that if geologists had the right to sell that oil they would be more careful with it instead of just dumping it out and wasting it.

[Correspondent] That is a very clever idea. Though it seems absurd here at the end of the 20th century to have to prove the key role played by environmental protection organs. Yet the level of our citizens' environmental awareness is still pitifully low. They realize that something must be preserved and they are aware that someone is doing it, but they only sense the danger when someone closes their beaches and tells them not to go in the water. Then everyone is outraged, saying that is going too far, and that the beaches must be opened again as soon as possible... Do you have any ready examples illustrating this absolute and general unawareness and barbarism? When facilities are built and no proper consideration is given to anything...

[Danilov-Danilyan] Those things are still going on. I will give you two astounding examples, materials on which came in within the past two weeks.

There is an organization called the Astrakhan Gas Condensing Complex. In my opinion it is an environmental sore on the body of Russia. The main reason the complex is being built is to produce and export sulphur, which we

currently import. There have been warnings that the raw material, hydrogen sulfide, is absolute death—it will even kill algae.

The first unit is finished, and it is operating very, very poorly. A spate of environmental effects resulting from unsuitable equipment and technologies extend in some places over a range of 150-200 kilometers. This is quite unambiguously borne out by all analytical monitoring services. Furthermore, the production volume is below projected output a third or even two-thirds.

This is not a profitable enterprise. Last year it lost R50 million. The prospects for exporting sulphur are very dim. This all should be very carefully checked out, and perhaps shut down altogether. But it is not my proposals which are radical, but rather those being made by others, i.e. to begin building the second unit. Furthermore, those proposals are making a lot of headway at the level of construction concerns and individual industries. We have taken the very firm position that no centralized capital investment funds should be allocated for such harmful things.

There is another problem. As you are aware, the Gorno-Altay Republic has now been established, and its Supreme Soviet elections have been held. Clearly the correlation of forces must be taken into account, but the winners in those elections were mainly people connected with the old administrative structures.

And what have those people been doing, literally since the very first session of their parliament? They are carrying out a seven-year-old plan to build a hydroelectric power station on the Katun River. Environmentalists had very serious objections to that project. If the reservoir required for the power station is built, then it is very likely that the entire Ob River basin will be polluted with mercury, from one end to the other.

The Gorno-Altay region could get a much greater economic boost from development of international tourism, especially now, when there is so little untouched and at the same time relatively accessible nature left. But that is not the method by which the local authorities intend to get their hands on investment money. Here we have this project, which was botched up long ago. They are saying, let us build this station in eight years. According to my calculations, that will cost a minimum of R20 billion, and the overall condition of the investment structure in Russia will make such a short construction time unrealistic. Nor am I certain that even a kindergarten could be built for that sum if it were allocated. All of it will simply disappear and wind up going to benefit the specific individuals who shake loose the investment money.

[Correspondent] But the ministry cannot constantly rush in like a "fireman." There has to be some long-range outlook in this kind of work, some sort of program...

[Danilov-Danilyan] No environmental safety programs exist, but in conjunction with the Ministry of Science, Advanced Education and Technical Policy we have



developed a scientific research plan called "The Ecology of Russia." In my opinion it is a fairly substantive document.

[Correspondent] Pardon me, but the only thing we have managed to accomplish over the past 70-plus years has been to create programs...

[Danilov-Danilyan] I have never yet met a person with a positive opinion of the programs drawn up under the old regime. There was simply no one in it who could be trusted with matters such as these. Those programs served as camouflage behind which to spend the funds allocated in an extremely irrational manner. An insignificant portion of the funds were allocated to solid, authoritative and scientific organizations, and using them the old leadership attempted to create a halfway decent facade. At that time no one cared about specific results; that was not the objective...

I would like to mention in particular the help two specialists rendered in connection with the new program: N. Rybalskiy, my deputy for science, and N. Glaskovskiy, deputy director of the Institute of Geography.

The most important difference between our document and other similar programs is that we begin everything with people and bring it back to people. We must save people and Russia's environment from potential and quite possible environmental disasters and unpleasantness. Therefore we have carefully studied the influence of environmental factors on human health and working ability as well as sources which create negative factors and the means by which they can be either neutralized or prevented.

[Correspondent] How much money are they planning to spend on this program?

[Danilov-Danilyan] In preliminary negotiations Minister B. Saltykov and I agreed that it was pointless to demand more than R120 million, but we did stand firm on that figure. This is a scientific research program, but it is very closely tied in with practical results.

[Correspondent] A rumor has been going around that your ministry is going to serve as the base for creation of a resource bloc under one overall administration...

[Danilov-Danilyan] It is still too early to talk about that, but here is something which should be mentioned. When the structure of the present government was taking shape, there was the intention to concentrate natural resources management in a single bloc. Then that logical principle was violated. An independent Committee on Land Resources and Land Reform emerged. Then the Committee on the Fishing Industry remained a part of the Ministry of Agriculture. They are the ones who catch the fish, make the decisions and do their own monitoring and conservation work. The Main Hunting Administration performs similar functions. So the situation is awkward.

[Correspondent] Yet my skeptical attitude toward any programs on paper persists. In my opinion, Russia alone is simply not capable of finding the energy and the funding to cleaning up Augean stables like the Volga basin. Is it perhaps time to establish an international environmental cash fund under U.N. control to provide emergency assistance in the numerous disaster areas?

[Danilov-Danilyan] Society will see the first tangible results along the Volga and in the Caspian Sea this year. Adjoining countries have tackled the problems of the Black Sea and the Sea of Azov jointly under the aegis of the International Bank. The Helsinki Commission is helping us eliminate a very serious threat in the Baltic Sea, where chemical weapons went to the bottom during World War II.

I feel that top-priority measures in industry should be tighter control over emissions, accompanied by large-scale reconstruction of the equipment involved.

Of course we are not strong enough to do all this ourselves. Therefore I spend a lot of my working time trying to direct the attention of the international community to our problems, the adverse effects of which extend far beyond Russia's borders.

#### **Yablokov Issues Statement on Russia's Ecological Situation**

927C0259C Moscow IZVESTIYA in Russian  
23 Jan 92 p 1

[Article by Vasiliy Kononenko, "Reactor of Nuclear Ship 'Lenin' Dumped Into Kara Sea"] [txt][Text] At a press conference held 22 January in the press center of the Old Square, A. Yablokov, the State adviser of Russia on ecology and public health, shocked the audience with his written statement that the ecological situation in Russian is close to a national disaster. Here are some excerpts from that document.

#### **Problem Areas**

Officially, the zones of ecological trouble in Russian that have been designated to date are heavily contaminated regions resulting from the Chernobyl disaster, and also in the South Urals. These should include certain territories of Povolzhye, the Kuzbass, Central Yakutia, Priamurye, Krasnodar Kray, and the Kola Peninsula. Almost all republics, krays and oblasts could single out their own zones of ecological trouble and disaster.

Until now, little attention has been given to such an aspect of ecological trouble as the increased risk of technogenic disasters (ruptured pipelines, earthquakes that might be caused pumping by large amounts of water or petroleum from under the ground). For example, every year in our nation there are as many as 700 large breaks in oil and gas lines, and according to various estimates this results in a loss of from 7 to 20 percent of all recovered petroleum, i.e. tens of millions of metric tons. A. Yablokov emphasized that some international



companies are interested even in recovering spilled petroleum, as well as residual fuel oil.

According to forecasts, as pointed out in the address, within 20 years, more than half of the territory of Moscow will be dangerously underflooded. Even now, 10,000-15,000 rubles per city dweller are being spent to save existing buildings. It is high time to develop a plan of precautionary steps based on general ecological certification of enterprises and territories.

### Life Has Been Shortened

The document also cites alarming figures about life expectancy in Russia. In 1964-1965, the average life expectancy was 70.4 years. At the turn of the decade between the eighties and nineties, the curve began to turn down, and in 1990 the figure was 69.3 years. Last year, 40 percent of the men who died were of working age. In some especially polluted cities, the average life expectancy is less than retirement age.

A. Yablokov also cited fresh facts: the life expectancy of peoples of small population in the North is 46-50 years, and according to data of Norwegian specialists, people in the city of Nikel live to an average age of only 44 years.

The State adviser also alluded to the scales of radiation contamination in Russia, which are not fully known. We are speaking of territories where nuclear explosions have been conducted for so-called peaceful purposes. There have been more than 120 of these, including more than 20 in the Volga Basin, 12 in Yakutia, and so on. There are only fragmentary data about serious contamination of territories as a result of production of nuclear weapons in closed cities: Chelyabinsk-6, Arzamas-16, Krasnoyarsk-45, Tomsk-7. According to A. Yablokov, we likewise do not know what is happening in the shallows of the Kara Sea, where the reactor of the nuclear ship "Lenin" has been buried (dumped into the water), nor at other nuclear waste burial sites. The Russian budget has allocated about 5 billion rubles this year to deal with radiation contamination. According to the words of the State adviser, the approach here is as follows: rather than relocating masses of people, to decontaminate polluted territories wherever possible, and to do total examinations of the populace. There are already good methods for this: by analyzing blood or the structure of tooth enamel.

"Yet another danger that lies in wait for us" continued A. Yablokov, "is the imperfection of ecological legislation. For example, making natural resources subject to local agencies of authority often results in wanton destruction. (For the sake of comparison, let us note that the owner of timber land in France has no right to cut down a tree without appropriate permission from the agencies of authority.) Therefore, an urgent task is determination of the balance between the interests of the owner of private territory and of the entire State."

### There is No One To Be Responsible

In answer to a question from the IZVESTIYA correspondent about development of a mechanism of protection against destruction of the environment, A. Yablokov noted that at this moment a new concept is being formed in that area. It is based on the principles of being subject to payment for the use of natural resources, and payment for pollution and destruction of the natural environment. This is not a matter of fines for causal damage, but rather, as in all developed nations, compensation for harm done, which is immeasurably greater than any fine. However, a key factor in the State policy of rehabilitation of the ecological condition of Russia and improvement of the health of the people will be the realization of the right of each citizen to a healthy environment. In the United States, for example, 1500 people go to court every year against companies that have injured their health. Only a third of the suits are satisfied. But nevertheless, producers live, as it were, under a sword of Damocles, since the sums involved are enormous (to the point of threatening bankruptcy). And this forces them to deal in a civilized manner. For the moment, we are the dirtiest residents in Europe says the State adviser. But he stressed that we will move along the path of developed nations.

### Yablokov Proposes Concept for Russia's Ecological Security

92WN0385B Moscow SPASENIYE in Russian  
No 5, Feb 92 p 5

[Article by Aleksey Yablokov, RSFSR state advisor on ecology and public health, under the rubric: "Published Only in SPASENIYE": "In Order To Make Things Better, First You Have To Learn How Not To Make Them Worse"]

[Text] The fundamentals of the concept of ecological security of Russia have been worked on by a large group of scientists and specialists under the leadership of Aleksey Yablokov, state advisor on ecology and public health. Representatives of 29 ministries and departments of both Russia and the late USSR (great powers pass on, but the people who were formerly their citizens remain specialists and citizens) participated directly in work on the concept. A large amount of multifaceted material prepared by the country's leading authors was submitted for study. Then a small working group worked on polishing the concept. We will turn all your comments and proposals over to the authors. Moreover, the data cited in the appendices to the concept (the estimated numerical data for the present day in stable 1990 prices) will be used by our newspaper.

### Fundamentals of the Concept of Russia's Ecological Security

#### I

Ecological security is a component of the system of national security of Russia, as well as an essential component of Russia's participation in the system of international security. The decline in the quality of the

environment, the consequences of major technogenic accidents, and global changes in climate and habitat are resulting in deterioration of the population's health, ever-increasing losses in the economy, and degradation of Russia's natural world. The ecological threat is becoming an obstacle to steady socioeconomic development.

The following are the negative consequences of the deterioration of the ecological situation in Russia:

**1. A High Child Mortality Rate and a Low Life Expectancy Stemming from Ecological Causes.** Thus, in Russia in the last 20 years the mortality rate from cancer has doubled (from 814,000 to 1.6 million people a year). There is a danger developing to the health and very reproduction of future generations: today almost one out of four adults and one out of six children are chronically ill. The losses from the shorter lifespan and the incidence of disease reach 15-20 billion rubles [R] a year (from here on in 1990 prices) and are growing.

**2. Increase in Contamination of Food Products.** Twenty to 50 percent of food contains toxic chemicals, nitrates, or heavy metals in concentrations which are dangerous to health. The general incidence of disease in children under six years of age is four-five times higher in rayons with the highest levels of use of toxic chemicals than in rayons where their use is restricted.

**3. Rapid Expansion of Especially Degraded Ecological Zones.** These zones now constitute about 15 percent of Russian territory and have a population of 25-30 million people. Further economic development in these regions without radical structural changes for ecological purposes is already very difficult or impossible (the Lower Volga, Kuznets Basin, Norilsk, Angarsk, Nizhniy Tagil, Berezniki, Solikamsk, Sterlitamak, the regions where petrochemical and petroleum refining industries are concentrated, and numerous others).

**4. Expansion of the Scale of Radioactive Contamination.** Besides Chernobyl there are in Russian territory other, equally large zones of radioactive contamination (in the Southern Urals, in the regions of Krasnoyarsk and Tomsk, at a number of underground nuclear explosion sites, at burial sites for depleted nuclear reactors of ships and submarines in the North and the Far East, and others). The localization and processing and burial of fissionable materials, including atomic fuel (weapons-grade plutonium, radioactive waste, and the like) are special problems. There are more than 1.2 billion curies in the region of the Mayak Production Association (in Chelyabinsk Oblast) alone (10 times more than in the Chernobyl zone). Stabilization of the situation in this region will require at least R30 billion.

**5. Higher Risk of Technogenic Disasters** related, on the one hand, to substantial wear of production equipment in all leading sectors, especially in the chemical and mining industries, metallurgy, and thermal power engineering (for example, in the chemical industry more than 70 percent of fixed capital is worn out). On the other

hand this risk is related to the large-scale use of ecologically imperfect technologies in industry, agriculture, power engineering, and transport. The losses from industrial accidents and disasters total at least R15 billion a year.

**6. Degradation of Renewable Natural Resources.** Losses resulting from the decline in productivity of soils and losses of Russia's arable lands total at least R16 billion annually. Because of irrational management, the number of fish caught in domestic waters and on the sea shelf is declining, accessible timber resources are being exhausted, and so on.

**7. Deterioration in Water Quality.** Up to 75 percent of Russia's surface waters are no longer potable; about 30 percent of underground waters suitable for use are dangerously polluted. The total losses from pollution of water resources total R140 billion annually (not including the consequences to the people's health).

**8. Pollution of the Air Basin.** Material losses from pollution of the atmosphere (sick pay for people in hospitals, wear and tear on buildings, corrosion of metal structures, and others) total R18 billion a year. Depletion of the ozone layer is the cause of additional thousands of deaths a year. Losses will total hundreds of billions of rubles after 15-20 years as a result of the warming of the climate and the probable rise in the level of the Pacific Ocean and changes in boundaries of habitat and climatic zones.

**9. Restrictions on Siting Production Forces** have become one of the most important restraining factors in the economy's development. This appears above all in the closing of harmful production facilities and in bans on the introduction of new or reconstruction of existing enterprises in major industrial centers where, in most cases, the norms of ecological load have already been exceeded. These bans require the introduction of additional capacities in different regions which do not have the infrastructure, have unstable natural systems, and involve higher proportional expenditures for all types of work.

**10. Increased Social Tension Under the Impact of Ecological Causes.** The exodus of the population from a number of major industrial centers related to people's desire to preserve their health and the health and lives of their children has begun in the country ("ecological" refugees from Kemerovo, Angarsk, Kirishi, and certain other cities). Ecological problems related to preserving traditional nature use act as a "detonator" of national-ethnic dissension (Yamal, the Central Volga Region, Altay, and others).

**11. The Greater Role of Russia as a Destabilizing Factor in Guaranteeing International Ecological Security.** The greater international tension as a result of Russia's ecological backwardness (Finland's and Norway's claims and the conflicts in the Black Sea and Baltic basins).

These negative consequences of the deterioration in the ecological situation must be overcome no matter what socioeconomic course is followed.

## II

Today's serious ecological situation is the result of structural deformations of the economy accumulated over many decades—domination by nature-intensive sectors, the high proportion of outdated resource-intensive and energy-intensive technologies, militarization of the economy, the raw material orientation of exports, the extreme concentration of production in the most developed regions, and the building up of the resource base at the cost of moving into northern and eastern regions with ecologically vulnerable natural systems. A certain deformation of consciousness has also occurred in recent decades—conceptions of the infinite nature of natural wealth and a predatory way of using this wealth have predominated ("We cannot expect gifts from nature, our job is to take them from her"). Conceptions of the culture of labor and consumption have been destroyed, which has affected the moral foundations of society.

The accelerated transition to the market which is occurring without the state exerting proper control over economic activism may lead to sharp and unjustified growth in anthropogenic influences on Russia's natural world.

## III

Russia's ecological security demands that ecological policy be formulated and realized to prevent further deterioration in the ecological situation and that the foundations for ecologically stable socioeconomic development in the long-term perspective be created.

A policy of ecological security for the near future is determined by the need to efficiently resolve our most critical problems which now block the performance of other urgent socioeconomic tasks.

Russia's ecological policy should include the following three basic lines of action:

1. Development of a system of legislative enactments which establish the legal responsibility of the resource user and ensure the human right to live in a clean environment and to have access to information on the condition of the natural world; a system of indicators and norms of acceptable impact on the environment; norms of use of resources; and ecological expert study.

2. State regulation of ownership relations in the nature use sphere, including measures to regulate price setting and taxation, to introduce a payment system for use of natural resources, and to provide incentives for nature protection activity.

3. Decisive strengthening of a unified state system of monitoring and management of nature use.

## IV

Based on these approaches, the following should be the primary measures to strengthen Russia's ecological security:

- economic incentive for formulating and introducing energy- and resource-saving technologies in industry and agriculture and for extensive use of secondary resources;

- introduction of an economically sound payment (or tax) for use of natural resources and land;

- establishment of local and regional quotas and limits on pollution of the environment;

- identification of ecological disaster zones and zones where there are extreme ecological situations and development of priority programs for normalizing the ecological conditions in these zones;

- creation of a unified system for monitoring the quality of the natural world and public health based on combining existing systems of observation which do not interact with one another;

- formation of a State Ecological Fund;

- maximal use for ecological purposes of capital released as a result of reducing expenditures for production of weapons; and conversion of material-technical and human resources of the military-industrial complex as well as enlistment of civil defense formations and chemical safety troops to provide ecological security;

- conclusion of an interrepublic ecological treaty and bilateral regional agreements to provide ecological security;

- legislative delimitation of the powers of local executive governmental organs and those in the center to rule out conditions that lead to performing day-to-day social tasks at the expense of destroying nature;

- development of ecological security measures to be used during the destruction of chemical and nuclear weapons.

Among other measures needed to guarantee Russia's ecological security, we must single out the following:

- completion of the formulation of Russia's ecological legislation, including enactments on nature protection and on compensation for damages to people's health as a result of the deterioration of the environment, as well as a law on nuclear and radiation security;

- introduction of the practice whereby the entrepreneur declares ceiling ecological and energy- and resource-intensity parameters for the proposed production (or import) of output and application of economic sanctions for exceeding them;

creation of a system of State Ecological Certification of output produced as well as output being transported as imports and exports;

formation of a state ecological-demographic policy for protecting ethnic minorities as well as persons being moved out of ecological disaster zones;

development of scientific research in the field of guaranteeing Russia's ecological security;

refinement of the system for bringing up, enlightening, and educating people in order to produce ecological thinking and consciousness in Russia's population;

fulfillment of the USSR's international ecological obligations which affect Russia's interests and Russia's participation in the international ecological security structure;

formulation of several special state programs, including the following: restoration of soil productivity; improvement of the quality of food products and potable water; reprocessing, transport, and burial of dangerous toxic wastes; expansion of the network of specially protected nature territories; protection and rational use of recreational territories and resort and medical treatment sites.

## V

Failure to adopt the measures, in addition to the damages to people's health, entails the real possibility that ecology will block a number of major directions of national economic development and there will be irreparable damage to Russia's economy. Consequently ecological security is one of the major components of the country's national security in the transitional period.

### **Yablokov Warns of Russian Nuclear Plant Dangers**

*OW0204192992 Moscow INTERFAX in English  
1852 GMT 2 Apr 92*

["Cover Story" from the 3 April "Business Report": "Consultant to Russia's President Says That Russian Atomic Energy Plants Are 100 Times More Dangerous Than Their Western Counterparts"—following item transmitted via KYODO]

[Text] Russian President Boris Yeltsin's main consultant on environmental issues, member of Russia's Academy of Sciences Aleksey Yablokov, stated in an interview with INTERFAX that the republic is now endangered by growing threats from atomic energy plants. Citing accounts by Greenpeace experts, he emphasized that former Soviet and current Russian atomic energy plants (AES) are 100 times more dangerous than their Western counterparts. At the very least, 5-7 years of intensive work is needed to ensure the adequate reliability of Russian reactors.

### **It Was a Mistake for Russia To Join the European Energy Charter**

Dr. Yablokov is convinced that receiving credits from Western countries interested in raising the level of security at Russian AESs will only lead to an even greater foreign debt and take its toll on the productive capacities of Russia's Western partners.

Dr. Yablokov stated that Russia's joining the European Energy Charter in November of last year was a "political mistake." In his opinion, Russia's joining the charter means that Russia will be seen as a source of oil and gas for years to come while the West develops safe energies at home and "dangerous AESs" continue to be used in Russia.

### **75 Percent of Accidents at Atomic Reactors Are Due to Human Error**

The President's consultant said that after analysing accidents on atomic submarines, it became clear that the reactor's construction was only at fault in one quarter of the cases, while 75 percent of accidents were caused by the "human factor." According to Dr. Yablokov's forecasts, Western investments and credits to create a new security system for reactors, if the republic chooses to accept them, will reduce the 25 percent risk of accidents due to imperfect technology, in the best case to 5 percent. The problem of how to reduce the 75 percent risk concerning the "human factor" remains unsolved. This problem cannot be fixed instantaneously, even if all forms of control were enforced.

### **The Secrecy Surrounding AES Information Contributes to the Risk Factor**

Dr. Yablokov said that of all the factors contributing to the dangers of how an AES functions, "pathological secrecy" was most damaging. This is due to long years when issues of developing atomic energy in the Soviet Union were handled by the military industrial complex.

Even after the Chernobyl disaster, the importance of bringing precise and objective information to the public on atomic energy was ignored by bureaucrats in the "atomic" department. Secrecy was upheld to the point when specialists in atomic energy were unable to find out the results of a special commission which investigated incidents at military and civilian reactors in the former USSR. However, according to Dr. Yablokov, it is possible to understand those in the atomic energy industry: "They are standing on the edge of an abyss, if anything similar to Chernobyl happens, it is clear that a cross will be placed on the development of atomic energy in our country."

### **Economic Advantages of Nuclear Power Stations Are a Myth**

A consultant to the President of Russia is convinced that nuclear power stations have proven their insolvency

both ecologically and economically. The cost of dismantling a power station is greater than the cost of constructing one. Many nuclear power stations are already close to the end of their production cycle, but no one knows where to find the money to dismantle them.

Another alternative to nuclear power stations is the development of traditional energy systems, particularly at stations using coal, and also at gas and gas-turbine stations. Making reference to a Greenpeace report, the academician said that from a technical point of view, nuclear power stations could be converted into gas-turbine stations over the course of one to two years. It is of particular value to invest funds in these sorts of conversion projects.

#### **Russia Cannot Be Put on Starvation Energy Rations Right Now**

Mr. Yablokov admitted that Russia is not currently able to turn away from nuclear power because such a move would "place industry and the economy on starvation energy rations." Nonetheless, it is essential to stop investing funds in dangerous and ineffective nuclear stations immediately.

In addition, Russia needs to develop contemporary energy-saving technology and systems to clean up areas which have been contaminated with radiation. Mordovia, a region located in central Russia, was recently added to the list of five territories which were contaminated with radioactive fallout from the Chernobyl disaster. A large area of contamination has been detected around the Beloyarsk nuclear power station in the northern part of the republic.

Mr. Yablokov believes that steep cutbacks in weapons production in the military-industrial complex, which consumes up to one half of the republic's metallurgical production, 30-40 percent of the republic's energy, and one third of GNP, will be able to balance the loss of energy resulting from the gradual elimination of a unified energy system of nuclear power stations. Nuclear power stations currently provide Russia with approximately 17-18 percent of its energy needs.

#### **Functions of Russia's New Nuclear Safety Oversight Office Defined**

92WN0385A Moscow SPASENIYE in Russian  
No 5, Feb 92 p 4

[Statement by Yuriy Georgiyevich Vishnevskiy, chairman of the State Nuclear Oversight Office of Russia, under the rubric: "Power Engineering": "Invitation to Cooperation"]

[Text] The USSR State Nuclear Industry Oversight Office used to carry out state oversight of the work of nuclear power plants, storage of nuclear materials, burial of wastes, and ecological safety of the peaceful and "non-peaceful" atom. Now the Union department has been transferred to the jurisdiction of Russia in connection with

the division of property among the independent states of the new Commonwealth. The new organ's chairman, Yuriy Georgiyevich Vishnevskiy, tells how the organ will operate within the framework of the CIS and how it will relate to the republic oversight committees.

First we must ensure the safety of people working in this sphere of science and production, in nuclear power engineering, as well as the population and the environment from radiological danger.

This oversight has been assigned to our organization, the legal successor of the Union organs of departmental oversight—in the ministries of defense and atomic power engineering and industry.

In turn, similar oversight organs are being set up in the sovereign states. Thus, by analogy with our scheme a state inspection office has been set up in Latvia to monitor safe use of nuclear materials and the operation of AES's [nuclear power plants]. A bilateral treaty has been concluded to implement cooperation between our organizations and is now at the Council of Ministers of Latvia to be initialed.

The draft treaty on cooperation with the Ukrainian State Nuclear Oversight Office is lying on my desk.

We are actively striving to enter the international arena. The first step was the treaty with the German State Oversight Office for Nuclear Safety signed at the end of November.

Negotiations with Scandinavia, with Finland and Sweden, are planned for January-February.

The new State Nuclear Oversight Office of Russia defined itself in forms of cooperation with the countries which used to be participants in CEMA: Czechoslovakia, Hungary, Poland, and Bulgaria.

But let us return to domestic affairs. In the near future letters of intent to cooperate will be sent to Armenia, Belarus, Kazakhstan, Uzbekistan, and Tajikistan.

So we are waiting for "all the nuclear flags" to visit Russia, Moscow, and Taganskaya Street.

Material made available by the State Nuclear Oversight Office of Russia Information Bureau

#### **Ecological Legacy of 'Minatomenergoprom'**

92WN0383A Moscow KULTURA in Russian  
No 5, 1 Feb 92 pp 2-3

[Article by Roman Solntsev: "A Munchhausen Windlass"]

[Text] Probably we all laughed heartily when we read about how Baron Munchhausen pulled himself out of a bog by his hair. But then today the bitter thought occurs to me, that after all we too are trying to pull the country out of disaster, but without a support.



**Krasnoyarsk.** Everything has become stratified and fragmented; parties are dividing; creative societies are disintegrating into antagonistic groups; and in the soviets—opposition from the left and right, the red and white, the lawyers and the “revolutionaries”... Our society is like a heap of slippery pancakes, although there is neither the flour nor the oil to make them; it would be better to choose another analogy. In a word, it is not only the state that has a Munchhausen windlass—thousands and millions of windlasses are rattling around the country: “We are independent!” or “We ourselves!...” I think we will fragment ourselves to the point of atomization—until we reach the vivid and tragic feeling that you—yes, you, citizen of the former USSR—are all alone on the Earth. Like an orphan. And we are all orphans. It makes one’s soul quake—how will all this end up?

And how can we all be brought together anew? Philosophy might be able to unite the people, but what kind; which one?... There is no longer any faith, not in anything. We have had enough of flowery rhetoric. What is there that could cause us to stop running off in all directions; to keep us from abusing one another, and the authorities elected a month or two ago, and the gentle people, and the devil, and our own ancestors? A rain of dollars? Even if dollars began to pour down, our nails would just grow longer, our teeth would become sharper, and our eyes would become bloodshot. The ideal variant for those living in the semiconscious state of the former Brezhnev imperium is the old practice of selling raw materials at low prices in the West, and then one does not have to go to work. But, as it turns out, we have very little oil left; and where we do have it, an enormous amount of labor must be invested in order to extract it. Gold has practically disappeared, in an unknown direction. And the forest is being mercilessly destroyed...

Perhaps we will once again be united by fear? No matter how hysterical one gets, no matter how much one wails that our Motherland is immortal, we know that great kingdoms have fallen apart and were consumed. Who can guarantee that such an end does not await us, if we do not come to our senses? We have become accustomed to living marginally, knowing that we ourselves work badly. That is, we have become accustomed to living at someone else’s expense, while thinking that we are living off the state. But the state was merely the cover for an iron party caste, which ensconced its own sons in embassies and consulates. We have been picking one another clean. And we were all picked clean by the gang of conspirators which so clearly showed its face on television on the 19th of August. A new era has begun, thank God! But it is precisely now that we are closest to ruin, because right now it is becoming clear just how great was the fire that swept through our land, and the depth of the lies under which we used to live. We remember, that in Russia at least, we are 150 million. And damn it, we are the masters of this tormented, smoking land! Let us look around and see just what we have left. And let it be terrifying for us. Perhaps that will finally arouse us to get down to business.

I will take only one topic—the traces of the activity of Minatomenergoprom [Ministry of the Atomic Energy Industry]. No, I’m not going to go on about Chernobyl and about the new fire at that atomic power station [AES]; I will not even bring up other extraordinary incidents, the terrible ones which still have not been precisely described, like the explosion in Chelyabinsk several decades ago. I will only be concerned with the events which occurred in the course of regularly scheduled work.

Outside Krasnoyarsk, Atomgrad is alive and functioning. The entire world has known of Atomgrad for a long time; but only recently did our fellow citizens finally learn of it. They even saw, finally, photos of likeable people in white lab coats. We will say at once, that these are the specialists who have been forging our defense, and they are not to be reproached for anything. The problem lies elsewhere—in the fact that the state, in the person of O. Baklanov and other secret Central Committee secretaries, secret laureates of the Lenin Prize, and secret members of committees which no one ever heard of; which to the last day had maintained a mentality of confrontation, so that plants continued to add to the mountain of hardware thousands of tanks, which today we do not know what to do with, and are selling them abroad as scrap metal; when thousands of missiles will be destroyed in the near future, and every one of them costs more than a fine airplane. We are asking 7-8 billion from the West, when each launch costs up to 1 billion. As recently as last summer Yazov was saying that the budget of the “defense complex” was 70 billion, and it turns out that he was being cunning—it was almost 300 billion! Here I mean to say that the workers and engineers are not to blame for anything—they lived here, behind the barbed wire and carried out their professional business; but even today they do not understand, that our catastrophically low standard of living is the direct result of the gluttony of an enormous military monster. Incidentally, in the past they used to sell oranges and meat at the “Atomgrads” and “post box numbers,” and still do here—for coupons. But if there are any such magnificent collectives left anywhere, with whom Western firms want to collaborate most of all—they would be in our closed cities.

Just think, in Atomgrad—the air is pure, and the water is good; it’s from the Yenisey. But if one looks further downstream—even the fish glow there, and here and there swimming is forbidden. Flashes of radiation on the sandbars reach 500-700 microroentgens per hour (whereas normal background radiation is 15-20). I have a map of the Yenisey: for hundreds of kilometers to the north of Krasnoyarsk the banks are blood-red. But this only records gamma radiation! And beta and alfa rays?.. Any elementary school pupil now knows that heavy particles are extremely deadly—under their effects, chromosomes are distorted, break into pieces, and stick together! Thus, man as the species “homo sapiens” might disappear in a couple of generations. Yes, a strong one-time dose of radiation is terrible; but the long-term

effect of "weak" radiation is no less terrible, and perhaps even moreso; moreover, it has not been precisely measured through the entire spectrum. But the principal danger is not even here; nor in the waste discharges of a secret plant, which pours into the Yenisey the "excited" waters which cooled the "outer jacket" of the reactor...

What is to be done with the direct waste of three reactors; where can they put it? It turns out that until now it had been pumped into a sandstone "lens" beneath the city, hoping that all this deadly material would not seep into the Yenisey. But that would not be so bad. The fact of the matter is, that TVE's [Teplovdyelayushchie Elementy; heat-releasing elements] are shipped here by the rail-carload, from all the AES in the country (and from atomic submarines, and who knows where else). Spent materials in the form of rods, still full of terrible power, are also sent here by the bundle; these are lowered into a huge storage tank, like a swimming pool, and are stored upright. To my knowledge they have shipped a thousand bundles of these "pencils" here!

Let us simply take our heads in our hands and think about it. The thin zirconium casing in which the TVE's are enclosed will corrode and crumble in 25-30 years (and certain bundles have been standing here for ten years already); does that mean, that by the year 2010 a terrible "boullion" might be formed? But you see, they just keep on shipping them in... But what about later on? Where will they put them then?

It was proposed to build a plant next door to reprocess the radioactive wastes, part of them would then be returned to the reactor; the rest—dangerous liquid fractions—would be pumped beneath the Yenisey to the other bank, and then would be spread on the ground next to a flourishing sovkhos, into another "lens" which Moscow specialists have pointed out (What have they not poked their fingers at in their dachas somewhere near Pakhra or Obninsk?). And they would have done so, but two years ago the public became aroused. The ministry retreated, while trying to put on a good face, as if the ministry itself had decided to halt construction of that cemetery—the so-called Plot No. 27.

But they had already dug a tunnel beneath the Yenisey in secret, burning up millions of your money and mine—a huge tunnel, big enough for tanks to drive through. Of course, it is suitable for peaceful life, but how do we deal with TVE's? After they closed down Plot No. 27, they also halted construction of the reprocessing plant. Then the idea arose to build another, more sophisticated plant, where radioactive wastes might be transformed, as in France, into a kind of glassy substance and lowered into mineshafts—the most secure method of storage. But suddenly it became clear that there is no money for such construction. Minatomenergoprom has ceased to exist. Part of its people, as I understand, are being transferred to pure defense work ["oboronka"], but the main part of the staff [apparat] is becoming a business concern. And without asking anyone! Atomgrad has been cast to the

whims of fate. And the bundles of deadly pencils are continuously being shipped in.

Engineers at Atomgrad, whom I sincerely pity and respect, are perplexed and have lost heart. Of course, work will be found for them; they are the experts in their trade. They could grow crystals, and take up fibre optics. Specifically, they have received an order from the Krasnoyarskiy Kray Ispolkom and the Krasnoyarsk Survival Fund, of which I am a director, and they are already proceeding to create dosimeters for the populace. I have seen the models—they are splendid; but what is to be done with the TVE's?

Huge amounts of money are required for building a plant, and there is nowhere to get it. For example, one cannot get money from Minvodkhoz [USSR Ministry of Land Improvement and Water Conservation] for the great havoc it has wreaked on the country, because Minvodkhoz too is now a business concern. Atomgrad is paid R700,000 per ton of the "product" shipped in. But one can see how little this is by comparison with the fact that, abroad they pay millions of dollars per ton. That is, Atomgrad could ask perhaps 25-30 million rubles for receiving waste materials, and start construction of the plant. But for such a matter even this is a miserably small amount. They kray has no resources; everything is still in Moscow's hands. But if another Chernobyl is about to happen in the hinterlands, how can that be?..

I will talk about one more thing. On the territory of Krasnoyarskiy Kray, as well as in Yakutia, and perhaps even elsewhere (Oh, the secrets of our Motherland!), in the 1960's and 70's, Minatomenergoprom carried out atomic explosions at a shallow depth, as they now explain, as clients of USSR Mingeo [Ministry of Geology], for acoustic "examination" of the thickness [of the crust]... Of course, without the knowledge of the people. Several blasts were conducted beneath lakes from which cities are presently taking their water, and several where there are now Pioneer camps. I have appealed several times to the leaders of the ministries and departments concerned, as well as to Yu. Izrael, chairman of Gosgidromet [State Committee for Hydrometeorology]—to present to the deputies of the USSR and RSFSR (the last letter was signed by V.P. Astafiev, Yu.N. Moskvich, I.I. Smirnov and myself), all data on these bore-holes: where they are, what kind of charges were detonated in them, and what are the consequences... I know almost everything on the secret level, but we were demanding that they provide us the official figures—and it was useless!

My Yakut fellow-deputies and I wanted to even bring legal suit in the name of the Yakuts and Krasnoyarskites against Minatomenergoprom, for the secret explosions, and for whatever else they have done in Siberia. But, I repeat, it is as if Minatomenergoprom no longer exists! In any event, in the twilight of the changes, there was not one single answer to my letters, and all their telephones are silent. And so how can we get out of this situation? We will not be able to pull ourselves out of the abyss by

our own hair. Our Krasnoyarsk Survival Fund (Account No. 1700813, at the Krasnoyarsk board of "Mosbiznesbank," MFO [Mezhfilialnye Oboroty, Gosbank (Interbranch turnover in Gosbank)] 144018), in which hundreds of engineers and scientists, deputies at all levels and jurists have banded together, is thus far struggling like a bird in a cage. Yes, we are already organizing a second expedition along the Yenisey together with scientists from the Krasnoyarsk Scientific Center (headed by Professor V. Shabanov) and with the ecological center of the city (A. Bolsunovskiy, director); yes, we are preparing to publish N. Pechurkin's book, "Russia With an Outstretched Hand?.."; yes, we are cooperating in the creation of dosimeters and are trying to enter the International Fund, "For the Survival of Humanity." But all this together is little, if one remembers the kind of danger we face. Not only Krasnoyarskites—all of us. Because our Chernobyl—is also your Chernobyl, fellow countrymen! Our children—they are also your children! One cannot shut himself off from our disaster behind the gates of interstate borders; one cannot hide behind the paragraphs of laws on sovereignty. Only after recognizing the terrible danger; only after combining our efforts will we be able to assure a future for ourselves.

#### **Assurances of Leningrad Reactors' Safety Questioned**

*PM0604134192 Moscow ROSSIYSKAYA GAZETA in Russian 3 Apr 92 First Edition p 1*

[Correspondent Yu. Kukanov report: "Repetition of Chernobyl?"]

[Text] St. Petersburg—"The possibility is entirely ruled out. The Leningrad AES [nuclear electric power station] is staffed by highly qualified specialists. There is better provision for safety enhancement measures than at other stations. So there is no cause for concern whatsoever," was approximately how Boris Antonov, chief of the Main Administration for the Operation of Nuclear Power Stations, and Sergey Adamchik, chief of the Gosatomnadzor's [State Committee for the Supervision of Safe Working Practices in the Atomic Power Industry] Administration for the Supervision of AES Operations, tried to reassure deputies at the 13th City Soviet session in St. Petersburg.

The reassuring speeches, however, are not having the intended effect on our people, who have still not recovered from the Chernobyl syndrome. And the fact that we got away with it this time is no cause for complacency. Incidentally, according to IAEA assessments the 24 March incident at the Leningrad AES falls within level two on the seven-point scale, rather than level three, as initially reported.

City Soviet Deputy, Professor Yuriy Petrov believes that one cause of the incident was the unfavorable staffing situation among the Gosatomnadzor inspectors working at the station—out of the six staff, three high-grade specialists had resigned owing to low pay. Moreover, the

fact that irradiated fuel is being stored at a commercial site is no cause for positive sentiments.

The station's Achilles heel is its four RBMK-1000 units—the same as those at Chernobyl. They made a very depressing impression on Jan Nystad, director of the Swedish Nuclear Safety Inspectorate, who declared after familiarizing himself with the V.I. Lenin Leningrad AES that the international community should raise the question of the station's closure. At a Helsinki press conference he stated that radiation had been leaking from the Leningrad AES for the past 18 months, the newspaper NEVSKOYE VREMYA reports. According to the same newspaper, the "Green" faction in the Finnish Parliament has reported that cesium-137 has been recorded in two towns bordering Leningrad Oblast. Cesium traces would only be detected in the event of damage to the nuclear reactor itself—as happened during the Chernobyl disaster. This fact is all the more worrying because it calls into question the official version, according to which only technological equipment at the Sosnovyy Bor AES was damaged.

#### **Leningrad AES Incident Commission Chairman Reports Findings**

*PM0704150092 Moscow KOMSOMOLSKAYA PRAVDA in Russian 4 Apr 92 p 2*

[K. Belyaninov report: "Leningrad Nuclear Power Station Accident: It Could Have Been Worse"]

[Text] "By pure chance, the regulator valve shutter broke on one of the 1,600 pipes carrying the water that cools the reactor," S. Adamchik, chairman of the commission that investigated the cause of the Leningrad Nuclear Power Station incident, has reported. "At the time of the event 20.7 tonnes of water per hour was flowing along this pipe."

According to the findings of the Gosatomnadzor [State Committee for the Supervision of Nuclear and Radiation Safety], a gas mixture partially penetrated the station's reactor chamber. Discharges to outside the station were only 1 percent above health norms as far as inert gases are concerned, and 10 percent above in the case of iodine-131. As a result the roofing felt cover over the power unit roof is to be removed and buried in the very near future. But in spite of this Sergey Adamchik is sure that the incident confirmed yet again how imperfect the "Chernobyl-type reactors" are:

"The radiation discharge should not have happened at all, but the system for containing the contamination only comes into operation in the event of a major leak."

#### **'Mayak' Develops Safe Method of Storing Nuclear Waste**

*LD1004141992 Moscow ITAR-TASS in English 1339 GMT 10 Apr 92*

[By ITAR-TASS correspondent Yevgeniy Tkachenko]

[Text] Chelyabinsk, April 10 (TASS)—The Russian "Mayak" chemical plant in the city of Chelyabinsk in the Urals has proposed a new method for safe storage of nuclear waste.

Nuclear waste is mixed with crushed glass, then processed in a special oven and finally packed in glass casings. The mixture is then kept in a special warehouse designed for safe storage. "neither flood, nor any other calamity can make the mixture dangerous," the plant's chief engineer Aleksandr Suslov told ITAR-TASS on Friday.

The method can be applied to the most dangerous nuclear waste, Suslov said. 50 million curies of high-radioactive nuclear waste have been secured according to the method at the plant for the time being. He estimates it will take from some seven to ten years to render all of the plant's nuclear waste safe.

The modern technology and equipment for the process have been developed by the Chemical Research Institute in Yekaterinburg, Siberia. Foreign experts believe glass mixtures are the most effective nuclear waste processing for the present. It is indispensable for the environment, but involves considerable expenditures, Suslov said.

The utilisation of used nuclear fuel will make it possible to cover the expenses and make 40 million U.S. dollars worth of annual profit.

Germany is offering a profitable eight-year contract for cooperation in the project, there are offers from some CIS and East European countries, Suslov said.

### **Russia's Environmental Experts Victims of Economic Reform**

92WB0378A Moscow KURANTY in Russian  
4 Feb 92 p 6

[Article by Dmitriy Barinov: "We Are Economizing on Our Own Life"]

[Text] "And hail fell, mixed with blood and fire, and all of this came crashing down onto the earth. A third of the land burst into flames, a third of the trees burst into flames, and all the grass burst into flames. And a third of the sea turned into blood." Those terrible prophecies from the Apocalypse became a reality long ago in Russia. Nature, made corrupt by monstrous industry, is dying, and, together with it, man himself is dying too. But there still exist among us those specialists who can prevent the impending disaster. However, even their efforts have been ineffective, because we are economizing on our own life.

An organization that has found itself on the brink of collapse is the unique design bureau of the Scientific-Research Institute for the Industrial Purification of Gases [NIIOgaz]—a system of laboratories that develop means to protect the ecology. Essentially speaking, the state has thrown to the will of fate the country's best specialists, who are capable of improving the ecological

situation in many major cities, including Moscow. The shadow cast by the social and economic reforms has fallen on people who are tremendously important to all of us. Because they are the only persons who are capable of preventing the impending catastrophe...

"Our situation is truly tragic," Yuriy Bobrov, director of the KB [design bureau] feels. "A system of laboratories capable of developing practically any environmental-protection equipment is no longer needed by anyone. The government has refused to subsidize us, and it is no longer profitable for enterprises, under conditions of the changeover to the market, to spend their funds for purification structures. And yet the ecological crisis is getting more acute literally with every passing day, and the time is not far away when it will be impossible to correct what has been done. One is struck by the nonchalance with which society contemplates the death of nature, as well as the death of man himself, and the irreversible processes in the biogeocenoses and the climate. For the time being, Russians have a chance of surviving. Our design bureau can resolve rapidly and inexpensively an entire set of ecological questions. All one has to do is to carry out the relatively inexpensive remodeling of the capital's factories and plants and the quantity of noxious emissions in Moscow will be reduced by 30-50 percent. In the course of one or two months the city will be able to rid itself of tens of thousands of tons of toxic substances. However, the authorities have no plans to do this..."

There are bitterness and pain in Yuriy Bobrov's words. One senses the complete awareness of the utter hopelessness and helplessness of a highly qualified specialist who has been rejected by everyone. His appeals to the leadership of enterprises, proposing the carrying out of this extremely necessary ecological remodeling, proved to be unsuccessful. Literally every plant in Moscow needs an improvement in its purification structures. The enterprise managers understand this, but they do not want to loosen their purse strings.

"Paradoxical as it sounds, all the services that have been called upon to fight for the protection of the environment are only recording the ecological crimes, without taking any real steps to prevent them," Yuriy Bobrov continues. "It is really a shame that the funds allocated by the Russian government and the city authorities for environmental-protection measures are being wasted. There have sprung up a large number of organizations that, essentially speaking, are completely useless, organizations for which the ecology has become a feeding trough: environmental-protection committees (Russian and Moscow), and innumerable SES [sanitary and epidemiological stations] and various foundations. All these 'boutiques' are only feeding like parasites on the ecological woes. Some are playing dirty tricks. Others grab them by the arm and shout loudly at them, but the guilty individuals are punished in a purely symbolic way. And that exhausts all the measures. This situation is repeated over and over again. Moreover, it is no secret to anyone that the workers at the committees and the SES, taking



advantage of the right to punish ecological criminals, are simply abusing their own position and getting rich in this way. Incidentally, I do not censure them. The root of the evil lies somewhere else. It is high time for the authorities to understand that one should not fatten up such organizations, which are gradually becoming bureaucratic structures. There will never be any benefit from what they are doing. It is necessary to improve the environmental-protection equipment and the technological processes. That is the only thing that will save us. But so far everything is just the other way around: The reason for these paradoxes lies in the fact that, so far, it is not the specialists who have been engaging in the protection of the environment, but functionaries."

One cannot fail to agree with the logic expounded by the director of a design bureau that can be dissolved at any moment. The vitally important ecological research and development carried out by the employees of NIIOgaz under market conditions have become unprofitable. So the country is getting rid of the design bureau. Unobtrusively and unnoticeably. By stopping once and for all the financing from the state budget. Currently the unique laboratories have received production orders for only 30 percent of what was planned. It turns out that the country is rejecting the very latest equipment for purifying practically any noxious emissions. Of course, with the passage of time, the "rulers and the judges" will understand that Russia absolutely needs these units. Obviously, when that happens, it will not be possible to gather together the invaluable collective that exists today. Yuriy Bobrov is convinced that the most talented specialists, after the devastation of the design bureau, will go to work in foreign companies. And then our country will be forced to purchase purification units in exchange for currency from foreign states. Incidentally, we are already purchasing that kind of equipment right now. Of course, closing our eyes to the possibility of making that kind of equipment in our own country. The NIIOgaz design bureau is capable right now of fulfilling within short periods of time any production order on a world level. Nevertheless Russia is incurring colossal losses by handing out currency in exchange for elementary filters. Millions of dollars continue to be thrown to the wind. In the theater of the absurd, our country is continuing to play a tragedy the end of which cannot yet be seen.

In the opinion of Yuriy Bobrov, who knows the ecological problems from the inside, it is necessary urgently to enact very strict environmental-protection legislation. At the present time, however, it is more advantageous for the enterprises to pay fines for the noxious emissions than to combat them. For example, the emission of one ton of soot costs factories a total of five (yes, five!) rubles. The fines are only slightly greater for toxic compounds and the salts of heavy metals. In order to force enterprises to engage in environmental protection, it is necessary to increase the fines by a factor of 100, as a minimum. Only then will the industrial monsters stop poisoning people and the atmosphere. The fines received

from the enterprises should be used by the authorities only to create the latest, ecologically pure technological schemes, rather than to fatten up organizations that no one needs. Otherwise our nation will be doomed to extinction. Already the infant mortality rate in Russia is one of the highest in the world. The major cause of this is the ecological crisis.

"Moscow is especially in need of emergency measures to save the environment," Yuriy Bobrov is convinced. "Our design bureau is ready to help the city. All we need is money. All one has to do is to make a detailed stock-taking of all the enterprises in the capital, and everything will be clear. At many of them, all that has to be done is to carry out cosmetic operations and the emissions of the poisons will stop. Other plants need more serious remodeling, but even that could be carried out rather quickly if people wanted to do that. But the remaining plants will have to be removed from the capital. We do not have any other way out. The situation is much more serious with the heat and electric power plants [TETs]. Ten years ago the power engineers began converting the TETs from coal and mazut to gas fuel. That was a catastrophic mistake. It is much easier to trap soot with filters than to trap the products of the incomplete combustion of gas—nitrogen oxides. The colorless nitrogen compounds are unnoticeable and very dangerous for man. Doctors have proven that they have an uncorrectable nerve-paralysis effect on the brain. But it's too late to retreat now—almost all the heat and electric power plants operate on gas. The design bureau of the NIIOgaz is capable of purifying the gaseous emissions of the TETs also, but that will require tremendous capital investments. Incidentally, instead of reducing the pollution of the atmosphere, the Moscow government supports the idea of building a new power mutant—the Northern TETs. Only a naive person can believe the fairy tales about its safety. The imported catalyzers that were bought for the station will go out of commission very quickly. There will be nothing to replace them with, and the functionaries' brainchild will completely destroy the city. As a specialist I assert that the idea of building the Northern TETs is the work of the devil. If that idea is implemented, the capital will be covered by constant acid rain. Nature will not forgive us for committing this barbaric act.

"I am also frightened by the penetration of the leadership of major enterprises into governmental structures. Every day, as I look out of the laboratory window, I observe how the ZIL [Automotive Plant imeni I.A. Likhachev] association is poisoning the Nagatinskaya Bottomland at headlong rates. The enterprise leadership has not plan to purify that bottomland and does not even appeal to our design bureau. I am convinced that ZIL, as well as other monsters, have their lobbyists in the government, who say, 'You can poison the atmosphere as much as you want, guys, but keep giving us those trucks. The country needs motor vehicles!' This mechanism operates constantly. The only thing that can stop it is the law."



Yu. Bobrov has also analyzed the problems of producing purification structures in Russia. Almost all the equipment being produced is of obsolete design. It is planned to keep producing these ineffective filters for ten more years. Producers of purification units have answered by silence to recommendations from NIIOgaz to improve their design if only slightly—it is unprofitable for the plants to change the technological scheme. Therefore it is not surprising that the production of environmental-protection equipment resembles the production of mass consumer goods. The manufacturers produce absolutely identical filters for all the enterprises, without taking the specifics of each plant into consideration. The incompetent approach to the problem leads to the ineffectiveness of the gas purification. Bobrov's design bureau, unwanted and forgotten by everyone, is ready to develop apparatus that is specially designed for each customer, inexpensively and in exchange for rubles, and, of course, will be able to answer for the effectiveness of its designs. But the customers are preserving their sepulchral silence.

One feels terrified and sad after the conversation with the director of the design bureau. Terrified about the land that we are deliberately killing. In the tragedy of a few laboratories we can see, as though in a mirror, the tragedy of a nation that is voluntarily digging its own grave. Dear God! Can it really be that You will not give us the intelligence to stop what we are doing? Because we have almost no more time remaining.

**Editorial note.** We asked Valeriy Menshikov, chairman of the Russian Supreme Council's Committee on Ecology, to comment on the researchers' tragic situation. In his opinion, it is practically impossible at the present time to finance the design bureaus from the state budget. However, Valeriy Fedorovich considers it desirable to create under the Russian government an Ecology Department that would be able to support specific environmental-protection projects, including the research and development at NIIOgaz.

#### **Ulyanovsk Institute Financial, Cadre Problems Imperil AES Safety**

*PM3103100992 Moscow ROSSIYSKAYA GAZETA in Russian 26 Mar 92 First Edition p 1*

[Report from ROSSIYSKAYA GAZETA—ITAR-TASS "News" column: "World Standard? Think about It..."]

[Text] The interest-free loan—guaranteed by the Ulyanovsk Oblast head of administration—which the Atomic Reactor Scientific Research Institute was able to obtain at the beginning of the year has petered out.

The best cadres are leaving the institute. This calls into question the safety of the atomic power stations operating both in Russia and the CIS as a whole: This institute was and remains for them the sole developer of reactor materials technology and improved operating methodologies. The institute enjoys a monopoly in the sphere of producing sources of high specific activity.

Many developments in this area have been patented and recognized as superior to world standards.

Mothballing the reactors, the specialists suggest, will require of the order of 200 million rubles, and an equal sum will have to be allocated annually over a decade to maintain the special protection service and prevent a new Chernobyl. The institute is also an underground test site for the burial of waste material with a storage pit for spent nuclear fuel.

#### **History of Secrecy, Incompetence on Dioxin Issue Scored**

*92WN0374A Moscow NEZAVISIMAYA GAZETA in Russian 16 Jan 92 p 6*

[Article by Doctor of Chemical Sciences Lev Federov under the rubric: "Ecology": "The Dioxin Expanse of the Former USSR: Its System of Coordinates Is Built on Secrecy, Lies, and Incompetence"]

[Text] Phenol discharged into the Ural River at Orsk in November of last year reached Orenburg. The threat of dioxin poisoning hung over the city—the health authorities had not refrained from chlorination of the water, in the process of which the phenols are transformed into chlorophenols, and those in turn into highly toxic dioxins. This is the continuation of a story that began as early as the spring of 1990 in Ufa. It looks like we have not learned a thing.

Issue No. 138 of NEZAVISIMAYA GAZETA (5 Nov 91) published material by an American journalist commenting on a confidential KGB report on yet another threat to our country—the danger of its contamination with the highly toxic, technologically generated poison dioxin. The former head of the KGB, Vladimir Kryuchkov, and two other officials appealed to the president with that warning in connection with his assignment of 21 December 90.

A journalist would not be a journalist if he did not pounce on the serious problem of the cloak of secrecy. Here we are reading about secret military facilities, the KGB, and a confidential report to the president. And all of this with reference to an anonymous author from ecology. It is hardly worth carping at the American, however, the more so as he saw from afar what we do not want to see and admit ourselves.

The secret military facility in Ufa is none other than the Khimprom Production Association. It has not been making anything for the military for four years now, but on the other hand it is probably among the top five in the country in the ancillary production of dioxins. Matters began in the spring of 1990, but they were really linked to the previous fall, when several hundred tons of phenol were spilled directly onto the ground at that plant, and not cleaned up. There is no secrecy here—that incident was in the country's national report on ecology in 1989; it was, on the other hand, incompetence rare in scope. Can it really be that it did not occur to anyone over the

winter, either in Ufa or in Moscow, that in the spring all that phenol would flow straight into the Belaya River and be partially converted into dioxins in chlorination during the preparation of the water for drinking? The discharges of Khimprom, after all, contain three powerful sources of dioxins—with wastes from the production of Agent Orange in the 1960's (a defoliant resembling that employed by the Americans in Vietnam), with the wastes of modern-day herbicide production, and from a burner that was built counting on the destruction of highly toxic chlorine wastes, but in actual fact operates in a regimen more suitable for the burning of fallen leaves. If anyone in Ufa or Moscow had wanted to know the truth, it would have been possible to measure the dioxins as early as that winter—both at the Ufa Herbicides Institute and the Moscow Institute for the Protection of Vegetation; the appropriate expensive, hard-currency equipment is on hand at both places. But not a single dioxin figure came from these two "agrochemical" institutes for the protection of useful vegetation. Is that not because the closed departments were operating at them until recently?

Ufa—which Khimprom has poisoned with dioxins and which has underground water tables that are poisoned by toxic wastes—is not alone. The chemical fertilizer plant in Chapayevsk (Samara Oblast) is engaged in the same thing, where a whole shop was engaged in just one thing in the 1980's—the reprocessing of nontoxic isomers of hexachloran into something containing dioxin that was sent not to the finished-products warehouse but straight to the waste dump and on into the Volga. It is not surprising that dioxins have been found there in the artesian water, and that now they have been carried from the plant to the town on the downwind side—to the hospital, kindergartens, and residential housing. The Khimprom Production Association in Sumgait is of the same rank; dioxins were found there in 1987 at the time one of the shops were closed. The Krasitel Production Association in Rubezhnoye (Lugansk Oblast) is at the same level; phenols penetrated into underground strata, and more than half of the infants who died in 1990 were already deformed. And there is yet another Khimprom Production Association in the city of Zima (Irkutsk Oblast), where dioxins were found after a large fire in 1987; there is an electrochemical combine at Navoi—well, and so forth.

And what of the hierarchs of chemistry—the agrochemicals—that have left us this legacy and whose plants are far from exhausted by those listed? Now, in connection with the report to the president, they have proposed a fresh idea—to transform, over the next five years, the laboratory into a center, having requested two million rubles for its sustenance.

The Electrical-Equipment Ministry has regarded its participation as "expedient," having requested "financing for dedicated purposes." They perhaps remembered too late. The capacitor and transformer plants of Serpukhov, Ust-Kamenogorsk, and Chirchik (Tashkent Oblast) have already poisoned quite a bit of area in their cities with

polychloride phenols, of which dioxins constitute the poisonous start. And scientists from Obninsk have already found that poison. What more "scientific developments" are needed so that specialists of the renowned VAZ [Volga Motor Works] do not charge their employees with secretly dumping the contents of the old transformers into the Volga at night?!

The Ministry of the Timber Industry reminds us of its own initiative. It turns out that it had requested 13 million rubles from the State Committee for Science and Technology as early as 1989 for the "development of the conceptual framework" for anti-dioxin measures—but did not get them, so who can blame it?

The Metallurgical Ministry has reported that it "does not utilize technologies producing dioxins," so no problem. Arguing with these people is pointless; life will decide. But if they are interested in where in this estate dioxins are found, let them look at the metallurgical combine that was located in the city of Kirovgrad (Yekaterinburg Oblast). The removal of copper wire from its polyvinyl-chloride sleeve before remelting goes on via burning it off directly outside—that is the "technology." The remelting of capacitor cases without cleaning them of traces of toxic filler takes place in the open-hearth shops.

That is the foundation upon which the "confidential" report was built in just that era when the president was deciding many problems, including the economy and ecology, by and large with the help of the KGB. There lies the whole answer.

International matters, in conclusion. The American journalist is right when he reproaches us for the fact that the former USSR is the sole industrially developed country that does not take part in international collaboration on dioxins. But everything in life is not so simple.

The journalist, in reminding us of the opinion of the American scientist A. Yanders on Soviet dioxins, forgot that he was scarcely well-informed on the system of coordinates of our dioxin expanse, where secrecy lay just along one axis. Along the other two were purely Soviet inventions—lies and incompetence. A. Yanders is studying dioxins in the dead city of Times Beach, where there are just the dioxins left; the 2,000 people have long been resettled using government money. All of that does not threaten us: there are 100,000 inhabitants of Chapayevsk, and a whole million of them in Ufa. \*\*\*

*Editor's Note:*

*The map [not reproduced here] which accompanies this article carries the following caption: "On this map are indicated the cities where dioxins have already been detected or cannot fail to be detected with the first serious checking. Their numbers will grow—our technologies guarantee it." The following cities are indicated on the map:*

- Murmansk
- Chapayevsk
- Kiev

- Kaluga
- Serpukhov
- Shchelkovo
- Moscow
- Novomoskovsk
- Pervomaysk
- Rubezhnoye
- Dzerzhinsk
- Cheboksary
- Vurnary
- Perm
- Volgograd
- Volynskiy
- Ufa
- Sterlitomak
- Yerevan
- Sumgait
- Navoi
- Kamayri
- Chirchik
- Slavgorod
- Semipalatinsk
- Ust-Kamenogorsk
- Zima
- Usolye-Sibirskoye
- Amursk

### Revamping Russia's Pollution Fine Structures

92WN0384B Moscow SPASENIYE in Russian

No 5, Feb 92 p 4

[Article by R. Mamin, department chief of the Ministry of Ecology of Russia: "Without Price and Without a System"]

[Text] It would be wrong to say that no one directed nature protection activity in communist Russia. It was just the opposite. Already in the late 1960s a code of laws had been created and normative legal decrees had been adopted. The Fundamentals of Land, Water, and Forest Legislation are among them. Laws on protection of atmospheric air and the protection and use of the animal world. In short, there were laws, and the thing needed was to take action, not complain.

But... All these legislative enactments for the most part established general principles for managing natural resources by defining the jurisdiction of the Union and the republics in issues of nature protection and its rational use. But a truly operating mechanism simply did not exist. The result is distressing—pollution of the natural environment grew steadily taking into account Russia's mighty industry and the unequal distribution of enterprises, especially in the European part of the country. Administrative financing according to the residual principle also "worked" against nature. What is more, even the R2 billion in capital investments allocated annually for nature protection purposes were only 83-85 percent incorporated.

The transition to economic methods of management of nature protection processes commenced in 1990. A large-scale ecological-economic experiment to improve the environment began on Russia's territory. Participating in it were 38 republics (or former autonomous regions), krais, oblasts, and cities. The nature protection organs faced the task of working out an economic mechanism of nature use—defining the amounts and system for collecting payments for pollution of the natural environment and in practice proving the methods of forming and using nature protection funds in the changed conditions—self-government and self-financing of regions.

Analysis of the results of the experiment showed that a partial decline in pollution of atmospheric air occurred in the republic (from 35.7 million tonnes to 34.1 million tonnes) after an inventory of the sources of pollution of the natural environment had been made at industrial enterprises. Run-off of pollutants into bodies of water declined. And the amount of capital allocated for financing nature protection measures rose. For some regions the total almost tripled (as compared with the preceding years). How was it paid for? From money obtained as payments for discharges and run-offs. City, oblast, kray, and republic nature protection funds began to develop. They in turn began to be used to finance scientific work, to acquire instruments and equipment, to build units for decontaminating gases and waste waters, and to perform other nature protection measures.

The result of the economic experiment was the RSFSR Council of Ministers decree (No. 13 of 9 January 1991) which ratified payment norms for discharges of pollutants into the natural environment and the system for applying them. For the first time in the country, through the initiative and with the active participation of specialists of the former RSFSR State Committee for Nature and of local nature protection organs, the transition to economic methods of management of nature protection activity was carried out in fact on the entire territory of Russia, using this governmental document.

In Russia at the present time payments are being collected from the profits of all enterprises and organizations located on the republic's territory, regardless of their departmental subordination, type, or form of ownership (state, joint stock, cooperative, or private), for discharging pollutants from stationary or mobile sources into the atmosphere, for permitting run-off of polluted waste waters into reservoirs or onto local landscapes, and for disposing of production and consumption wastes.

According to preliminary estimates, yearly payments for polluting bodies of water in 1992 will total R22.5 million in Bashkiria, R37 million in Altay Kray, and from R40 to R57 million in Vladimir, Irkutsk, Kirov, and Lipetsk oblasts, while payments for polluting the atmospheric air will total R10 million in Buryatia, R306 million in Krasnoyarsk Kray, and R27-R58 million in Vologda,

Murmansk, and Chita oblasts. All this money will be used to realize ecological programs formulated in different regions.

Today not only specialists of nature protection services in Ukraine, Belarus, Kazakhstan, Kyrgyzstan, Armenia, Latvia, and Tajikistan but also representatives of business circles and "green movements" of the United States, the FRG, Finland, Mexico, and other countries are showing interest in Russia's economic methods of nature use, in particular in the mechanism for collecting payments for pollution of the natural environment, and that includes from foreign investors.

Only a document is not dogma. It must be refined. That is why economists of Russia's nature protection services have been at conference-seminars three times in the last year (in Novgorod, Yekaterinburg, and Moscow). Overall everyone agreed with the opinion that the payment norms adopted are convenient in settling accounts with nature users; and suitable—a significant consideration—for prompt computer processing. One may say that the payment norms adopted are a type of economic diagnostic of the ecological situation which is taking shape.

Thus, the Orenburg and Nizhegorodskiy nature protection committees propose to expand the list of items discharged by stationary and industrial enterprises—by including in it organic dust, sodium chloride, and aerosols...

The Kemerovo and Novosibirsk committees believe it is necessary to make the system for collecting payments from motor transport and other moving sources tougher (if they exceed the established norms for discharges).

Disposal of wastes continues to be a painful problem. So now the question is being decided of whether payments for their burial should be raised even more or whether it would be more reasonable to adopt the Magadan Committee's proposal and set a minimum (or maximum) norm per tonne of wastes with a danger category coefficient.

In turn representatives of nature protection service offices at enterprises insist on including payments for normative discharges (or run-offs) in the prime cost of output produced and, needless to say, reducing the payments by an amount equal to the volume of nature protection measures.

The economic services offices of the Ministry of Nature are carefully analyzing all the proposals coming in, studying them in detail, and correlating them with world standards. The economic mechanism of nature use is gradually picking up speed and it is now time to formulate payment norms for pollution of lands, injury or

damage to vegetation in cities and settlements, and thermal, noise, or electromagnetic pollution of the environment.

### **Udmurtia Discusses Ways To Dispose of Chemical Weapons**

*LD0104141492 Moscow ITAR-TASS in English  
1328 GMT 1 Apr 92*

[By ITAR-TASS correspondent Alfred Artamonov]

[Text] Izhevsk, April 1—For the first time in many year, the Presidium of the Supreme Council of Udmurtia, an autonomous republic in the Urals, discussed what should be done about chemical weapons stored in the city of Kambarka.

Containers with nearly 7,000 tonnes of warfare toxic agent—lewisite, have been kept there for over 40 years. This is a considerable part of the Russian arsenal of toxic agents which, according to official data, makes up 40,000 tonnes.

Scientists estimated that it would be most expedient to extract from lewisite expensive metal, arsenic. One kilogram of extra pure arsenic costs up to 4.5 thousand dollars in the world market. Up to 2,000 tonnes of arsenic can be extracted in Kambarka.

Arsenic and its compounds are used for the manufacture of microelectronic elements, special optics, dyes and transformers of the solar energy into electric.

But Udmurtian scientists object to organising this production in the locality since they believe this can lead to soil and water pollution.

Nevertheless, specialists from the Russian Independent Intergovernmental Organisation suggested transforming lewisite into gallium arsenide which they regard as ecologically pure.

Andrey Zhukov, executive president of the Russo-American University, said that other existing technologies are either ecologically unsafe or consist of many stages.

Scientists from the Russo-American University suggest getting the government's permission for the access to chemical weapons kept in military arsenals and for work within a joint stock society.

Some Western experts believe that the elimination of chemical weapons stockpiles of the former USSR which are concentrated in the Russian territory would cost approximately 20 billion dollars. Soviet military estimated that the destruction of chemical weapons may cost 28 billion rubles in prices of this year.



**Ecological Improvements at Novotroitsk Metal Works Reported***LD1004214392 Moscow ITAR-TASS in English  
1336 GMT 10 Apr 92*

[By ITAR-TASS correspondent Nikolay Goncharov]

[Text] Orenburg, The Urals, April 10 (TASS)—Novotroitsk in the neighbourhood of the huge metal works in The Urals may become an ecologically clean city, ITAR-TASS reported on Friday.

The metal works which had been flooding the city with industrial discharge, including 18 million tonnes of waste from its blast furnaces, is radically changing its technology.

Liquid furnace waste is already being processed so as not to contaminate the city. The plant stands to gain from the innovation, as 2,500 tonnes of scrap iron is returned to it and its partners receive over 150 railway car-loads of crushed rock.

The plant plans to make use of 98 percent of all open-hearth slag. The project of slag utilisation is based on the experience the German 'Erich Friedrich' concern offers to share.

The construction of a slag-processing complex with an annual capacity of 1.5 million tonnes is expected to bring considerable profits.

**'Self-Preservation' Ecological Movement Formed***92WN0359A Moscow SELSKAYA ZHIZN in Russian  
30 Jan 92 p 3*

[Article by V. Shaykin: "Save Ourselves and We Save the Future"]

[Text] Recently, a new social movement for the self-preservation of peoples has begun to develop ever more noticeably in Russia. The symposium and presentation of this movement and its registration as the Self-Preservation organization occurred on 27 January in Moscow.

At this event, the gathered representatives of many ministries, departments, unions, associations, enterprises, farms, scientific institutions, and VUZ's [higher educational institutions] of the country welcomed V.F. Stanis, rector of the University of Friendship of the Peoples imeni P. Lumumba. It is no accident that the presentation was held at the university: Four departments working directly on the problems of ecology were organized long ago and are functioning here, and now an ecology department has been created for the first time in the country. As Vladimir Frantsevich emphasized, and other symposium participants remarked, ecological science in our country has already gained enough potential to influence life and industrial and social practice ever more actively and surely for the purposes of more

precisely forecasting the development of various phenomena in the surrounding environment, of consciously controlling them, and of bringing pressure to bear on industry itself.

Many scientists and representatives of departments, enterprises, and VUZ's spoke at the symposium-presentation, and everyone noted that the unification of forces now occurring on the basis of the movement will enable us more quickly to achieve as broad and profound as possible an assimilation of ecological knowledge by all citizens of Russia, such that it becomes a necessary element of people's culture and upbringing literally from childhood. The Self-Preservation movement should play a large role in this matter, especially in drafting new ecological programs and their assimilation in educational practice.

We asked P.S. Redkin, organizational committee chairman, to tell us specifically about how the work of the Self-Preservation society will be structured in the near future and what problems it intends to solve first. Here is what he said:

[Redkin] The contamination of our living environment with industrial wastes has reached unprecedented scales. In some cities it has already become impossible to breathe. We must quickly do something to save ourselves. State agencies, regardless of efforts which have been applied for many years, have turned out to be incapable of effective measures.

[Shaykin] Indeed, we all feel that the ecological boomerang is hitting each of us and all of society ever more often and painfully. Exactly what does the Self-Preservation movement plan to do to normalize the ecological situation?

[Redkin] We have defined our goal as follows: To achieve harmonious development of the entire national economy and to consistently raise society's ecological culture and people's ecological awareness and, on this basis, to develop comprehensive work to cleanse and improve the natural environment and industry itself, including agriculture. After all, the cultivation of food products—farming, animal husbandry, and the processing sphere—above all determines their quality, and the health of all of us depends to a great extent on this. In recent years, we have started permitting great violations here. That is why Russia's agro-industrial complex is the first sphere of activity in terms of significance for the Self-Preservation movement.

[Shaykin] Tell us, Pavel Sergeyevich, what specific steps have you already taken in this direction?

[Redkin] We see our very first and in practice already solvable problem as working out in detail a certain economically justified model, albeit for now in a highly limited area, for a system of economic management which enables us to obtain biologically clean food products. For a start, a model of the Azov agricultural combine, which produces children's food products and



is, incidentally, one of the cofounders of our movement, may serve as such a testing ground. For the development of such industries, of course, it is necessary to allocate farms with appropriate land areas, as well as processing enterprises.

Therefore, we are trying above all to influence the awareness of people who work directly at machine tools, in the fields, in gardens, on farms, and at food processing enterprises, directing their attention to how things stand at their plants, factories, shops, and farms, so that they will apply efforts and correct omissions and distortions sooner, and they will make their own production ecologically cleaner and safer. We intend in practice to help everyone renovate obsolete technologies and replace them with new, waste-free ones.

[Shaykin] However, after all, this requires the basic preparation of people...

[Redkin] Of course! Therefore, we see our second task in creating a Scientific and Cultural Center for Self-Preservation of the Peoples and organizing its effective activity. Instruction at this center will be a kind of reliable guide to modern production activity for a person.

[Shaykin] Who may participate in the Self-Preservation movement, and how?

[Redkin] Everyone, without exception! Naturally, however, we are appealing above all to the hearts and minds of the young generation. Our statutes allow both collective, as well as individual membership, in the Self-Preservation organization. Dozens of collectives—plant, factory, transport, academic, and VUZ—have already become members.

However, the movement will be unable to achieve proper scope, of course, if it does not encompass urban and rural schoolchildren, students, workers and peasants, farmers, and scientific workers. Useful work will be found for everyone, for whom it is interesting and important to give effort and knowledge, the entire ardor of one's soul. After all, our goal is in our very name, self-preservation: Save ourselves and we will save the future. What could be more important than this?

#### **Roundtable on Joint Action Program for Saving Volga River**

*92WN0382A Moscow SPASENIYE in Russian  
No 2, Jan 92 p 4*

["Roundtable of the Newspaper SPASENIYE and Ecology Commissions of the RSFSR Journalists Union and USSR Writers Union: Saving the Volga. A Program of Joint Action: Excerpts of Speeches by Roundtable Participants; Titles Given as of Time of Meeting"; place and date not given]

[Text]

#### **Nikolay Vorontsov, RSFSR people's deputy and USSR minister of Nature Use and Environmental Protection:**

The pollution of the Volga basin began before the revolution, when the Sormovskiy Plant, for example, was built on the river bank, but most of the damage occurred under the Soviet regime, when a whole series of hydroelectric power plants were built on the Volga, the migrating routes of fish were cut off, resulting in the degradation of several species, and dangerous pollutants settled in the riverbed. The devastation of the land in the Kalmyk ASSR and eastern Stavropol Kray also had an adverse effect on the Volga. The Volga also became a testing ground for the notorious river diversion plan. Raising the water level in the Caspian Sea flooded and undermined the river banks, and this also affected the Volga itself. The Volga basin is also a major oil- and gas-bearing region, but it has some distinctive features—a high hydrogen sulfide content and extremely high pressure in the gas-bearing strata. It is no coincidence that Chevron and other world-renowned firms moved there. In view of the fact that this is also an extremely dangerous seismic zone, it is clear that any unforeseen disaster there could start a fire that could only be put out with a nuclear explosion. The problems here are numerous, and I have not even mentioned the severe dioxin pollution and soil erosion.

We also have to remember something else. It is here in the Volga and Caspian basin that different nationalities, different cultures, and three different religions come together. We can imagine the result of conflicts between sovereign entities and a power struggle on the banks of the Volga. Obviously, a single economic and environmental policy is needed here.

#### **Vitaliy Chelyshev, SPASENIYE editor in chief:**

So many different conferences on the Volga are being held today, and it seems to me that our main purpose is to find the actual means of changing the situation, which has become uncontrollable. The continuing disintegration of the country and the creation of independent states and all types of free enterprise zones (which is a normal process in itself) are creating the danger of the uncontrolled dumping of hazardous technologies. We are witnessing the complete disorientation of environmental protection agencies and the decline of the "green" movement. The water has no master of its own. Just as in the past, people in each region regard the water as their own and believe that they can use as much as they want for free. The press is doing something to discourage this, but its efforts have not had much of an impact yet. Anyone who does not want to respond to its criticism simply refuses to comment. The laws obligating administrators to respond to criticism in the press, however, are still in force.

Another important factor is the lack of restrictions in the military-industrial complex in this region, although the explosion of just one missile (and this is done in Kapustin Yar, near Astrakhan) sends 10 tonnes of hydrochloric acid into the atmosphere. They have set off more than a thousand such explosions without consulting ecologists and physicians.

**Nikita Moiseyev, academician of the USSR Academy of Sciences:**

What do I think we have to do first? We have to set up a single information center and provide it with all of the necessary ecological information for free. Our research center in Pereyasavl and the information center of the USSR Academy of Sciences could get to work on this.

**Tatyana Selivanovskaya, NIZHEGORODSKAYA YARMARKA correspondent and spokesperson for Nizhny Novgorod "Greens":**

We are already working on a program to save the Volga. It is called "Resurrecting the Volga" and will be approved on the governmental level. It was drawn up with the aid of American and Dutch experts who came here to help us, and we are prepared to submit it to you, but even this will not negate our concern and our dismal forecasts.

Nizhny Novgorod is a large industrial center in the Volga zone. Each time its enterprises apply for dumping permits, they get them. In the mistaken belief that there are not enough power engineering facilities here, Chuvash officials intend to raise the water level in the reservoir 5 meters. We are well aware of the possible results. Floods in the past have already cost us 100 million rubles' worth of meat, vegetables, and other foods. We are losing wonderful grasslands, and peasants cannot even grow carrots in their own gardens. All of the soil is saturated. What will happen if the water is raised another 5 meters? I will not even discuss the loss of our historical monuments. There are whole stacks of our letters of protest and petitions in Moscow, but they have not produced any results. We support the idea of creating an ecological data bank on the situation in the Volga zone in the SPASENIYE offices.

**Nina Toropitsyna, VOLGA correspondent (Astrakhan):**

I want to begin by saying that the organization of today's meeting has given me new feelings of respect for the RSFSR Journalists Union. I think we can accomplish a great deal if we work together.

What is happening to the Volga today is absolutely heartrending. We can only thank God that the Volga-Chogray canal was not built. After all, this would have destroyed the last natural spawning bed of the salmon in the river. The plans for the canal called for an outlet in that exact spot.

There is much we will not be able to correct, however, and this applies above all to the appalling effects of the Astrakhan Gas Complex on nature and the human being. It is operating illegally. Not one state commission approved it. The emissions from this complex give children nosebleeds and a general sense of malaise. In spite of the negative conclusions of the experts who made the impact report in June 1991, the second section of the complex is still being built. We have been told that we need the complex for sulfur and for hard currency,

but fish also represent hard currency. Officials do not want to hear about this, and the second section will begin operating soon....

I think our roundtable is extremely important, and I suggest that we turn it into a permanent ecological seminar for journalists. After all, most of us are not professional ecologists, but just average citizens who want to protect nature and society.

**Nikolay Mikheyev, chairman of Water Management Committee of RSFSR Council of Ministers:**

In recent years the amount of water taken out of the Volga has increased by 10 percent. How can there be any discussion of water resource protection under these conditions? In some cases there is nothing left to protect. One of the reasons is the lack of water legislation and a water law code. Another problem is the essentially free use of the water. Agricultural laborers take this water for free, and even industry only pays token fees. As a basis for comparison, a cubic meter of water costs 7 markkas (50 rubles in our money) in Finland and 4 kopeks in our country. This has led to the virtually unrestricted use of water resources.

Some of our existing water laws are clearly obsolete and are already beginning to harm nature. This is true, for example, of the statute stipulating that the water is the property of the people living near it. We have to acknowledge the extraterritorial nature of water resources and organize the management of these resources on the level of the entire basin instead of on the level of local administrations. The Russian Government passed this kind of resolution a year ago, but this is another of our resolutions that has remained on paper. This certainly does not mean that the local population should lose control, but the management process must be carefully coordinated.

Our research revealed that around 150 different programs on the Volga have been adopted, but the only positive signs we have seen have consisted in the resolution of a few sewerage problems in big cities. Everything else has remained essentially the same. Sewage is still being dumped in the Volga. Furthermore, the lion's share of pollution in the Volga basin comes through the air. The precipitation of various pollutants includes heavy metal oxides. They represent around 60 percent of all the pollutants here. Therefore, even if we close off all of the urban sewage mains, we cannot stop any more than 20 percent of the pollution of the river. This is why we need a comprehensive program, a comprehensive plan for the protection of the Volga. We have to acknowledge the tremendous damage caused by the plowing of the floodplain where animal husbandry farms with technical equipment and fertilizers have been located. This has hardly increased the harvest at all, but it has caused colossal pollution.

As for the Chuvash officials' decision to raise the level of the Cheboksary reservoir another 5 meters, I agree that we cannot allow this to happen, but we must not forget that reservoirs save many rural communities from devastation in high-water years like this one. The management of water resources must be based on an agreement,

and its observance must be overseen by some kind of controlling body, such as the Volga parliament, for example.

**Lester Brown, president of American Worldwatch Institute and roundtable guest**

He said that he had been pleasantly surprised to learn that a roundtable of this kind would be held in Moscow. Our institute, he went on to say, has achieved a certain position of leadership in ecological information. We expect Worldwatch to help us transmit this information to all segments of the population. He pointed out the need to include elements of ecological education in every part of the educational system, teaching students, teachers, and the new leaders who will be governing all of us. Brown reported that Worldwatch publishes annual reports of the state of the environment throughout the world. One of these reports was translated and published by the Soviet Progress Publishing House for the first time last year. Besides this, the first issue of MIR NA LADONI was also published this year. Brown expressed the hope that the Progress Publishing House could make the journal accessible to anyone wishing to read it. As for his institute's ecological information, he added, it can be obtained through SPASENIYE.

**Valeriy Vinogradov, procurator from Volga Inter-Oblast Environmental Protection Procuracy (Tver)**

He discussed the flaws in environmental protection laws, particularly Section 223 of the RSFSR Criminal Code, which must be amended.

**Rudolf Balandin, writer and chairman of Ecological Section of USSR Supreme Soviet**

He informed the people who had gathered here that our incompetent actions in the Volga basin could also provoke technogenic earthquakes, which could be extremely dangerous in the region. He discussed the salinization of the Volga by subsoil water and the need to plant trees and to build dams like the ones in Holland to gradually reclaim the submerged lands. He said that this, however, would require expert studies. He discussed the absence of effective control on the local and central levels and the need to acknowledge the priority of nature over individual rights.

**Aleksey Yablokov, RSFSR state adviser and corresponding member of USSR Academy of Sciences**

He discussed the actions that would have to be taken and the decisions that would have to be made as soon as possible to save the Volga and the whole Volga-Caspian basin. The main thing, in his opinion, would be the quickest possible conclusion of a multileveled interpublic agreement on the protection of this basin. The parties to this agreement should be Turkmenia, Kazakhstan, Azerbaijan, Iran, and Russia, including all administrative entities on the Volga. He reported that this kind of agreement has already been drafted, but some of the details have not been worked out yet.

Yablokov went on to say that he had spoken to President B. Yeltsin of Russia about this matter and had advised him that Russia should take the initiative in concluding this agreement. At the end of October B. Yeltsin sent a letter to M. Gorbachev on this matter. Now four republics have expressed their consent and have added some comments of their own.

The agreement we hope to conclude, A. Yablokov said, will be a framework. This means that it should include only the general guidelines of action to solve problems in the Volga-Caspian basin and then be followed by numerous specific agreements.

Several studies will have to be conducted in connection with this. One of the primary ones will be a serious investigation of the results of the 27 nuclear explosions that were set off in the Volga basin for various economic purposes: near Kostroma, on the Kama peninsula, in the lower part of the river, and in other locations. The results of other types of pollution—industrial, agricultural, and municipal—will have to be studied. Finally, the results of flooding must be researched. If all of this is not done in time, we will have to spend almost all of our money restoring everything that has been destroyed. We will also have to decide what to do about the silt, where such huge quantities of heavy metals have accumulated. All of this has to be checked. We might have to ask chemists to start working on the necessary analyses. We have to determine the scales of this danger.

**Vladislav Gorokhov, chairman of Ecology Committee of USSR Supreme Soviet of the Union**

He agreed with the need for the quickest possible conclusion of an intergovernmental agreement on the Volga and stressed that Russia has always advocated cooperation. He criticized the decision of the presidents of the USSR and RSFSR to distribute parcels of land along the river to citizens for orchards and vegetable gardens. He said this was also happening on the Yauza River, a tributary of the Volga. As a result, he stressed, all conservation efforts have been futile. Water is being wasted, and ecologists do not know what to do.

**Conference Examines Environmental Business Prospects in Russia**

92WN0384A Moscow SPASENIYE in Russian  
No 5, Feb 92 pp 1, 5

[Unattributed article: "By Rank, Function, and Calling"]

[Text] The president's office, the Ministry of Ecology of Russia, and the editorial office of the newspaper SPASENIYE for the first time assembled persons wanting to engage in ecological entrepreneurship.

**What Can Business Do for Ecology?**

The reality exceeded expectations. Instead of the 15-20 enthusiasts from ecological business, at least 10 times

that number gathered. And that is certainly gratifying. Even if some of the entrepreneurs drop out later on and find themselves in a different business, those who remain will separate the grain from the chaff and gain momentum. Perhaps then the nature protection business in Russia will finally change from declaratory pronouncements and assertions of collapse to concrete work and real help for nature and for man in nature.

At the conference a tough question was posed right away. What can business do for the ecology of Russia? State Advisor A. Yablokov decisively cut short all attempts of those speaking to deviate from the topic. A spark of dissatisfaction passed through the hall. In response the entrepreneurs posed an equally penetrating question. What can the government offer businessmen in return?

V. Danilov-Danilyan, the Russian minister of ecology and nature use, tried to provide an answer. He briefly described the country's disastrous condition: things are bad with monetary and material resources, and there are very few skilled personnel and a wide-open market in government functionaries. As for the list of entrepreneurial structures, it would seem to have everything: small and joint enterprises, associations, firms, and corporations. Few concrete actions have been taken as yet and most of them do not have precise programs. So one gets the impression that ecology is most often used as a shield. There is the danger that the turbid flow of pseudoecobusiness may drown the cause of resuscitating nature.

The minister cited a number of examples where the newly fledged entrepreneurs are not obligated to fulfill promises made. Interaction with business people is also made harder by the lack of a data bank in which domestic and foreign investors can find organizations or responsible people who are willing to work on building ecologically clean technologies and instruments, recycling waste products, and so on. In the minister's opinion, a paradoxical situation is taking shape in ecological business: foreign investors are coming to Russia not only desiring to invest their money in the work, they are also sincerely trying to clean up our land, air, and water, which also helps improve the nature of the entire planet. But is there really no place to invest?!

Now, when the point is the life or death of the country, there is no time for staggering and unhurried gatherings. We must decisively and immediately combine the efforts of all existing ecological structures—the State Advisor's Office, the Ministry of Ecology, and entrepreneurs—and the efforts of scientists and inventors.

#### What Do Entrepreneurs Expect From the Government?

Those who spoke at the conference for the most part agreed with the opinion that the development of entrepreneurship in the nature protection field is directly dependent on state tax policy. An entrepreneur must receive guarantees for the profitable investment of capital. Certain privileges on investments are needed. But at

the present time money invested in ecological entrepreneurship provides only a positive ecological effect; it does not yield profits.

On the other hand, there is the line of development toward ecologically clean technologies and instruments; this promises enormous potential and profits in the millions. The question is introduction. Machine building enterprises continue to be state enterprises and under present conditions of permanent barter have no interest at all in creating the latest technologies.

The state, in the opinion of business people, should undertake, first, to resolve global problems and, second, it should turn from indiscriminate financing of enterprises for nature protection needs to supplementary payments and subsidies for real projects where entrepreneurs are also investing money. In that case a mutually beneficial partnership of state and private capital is ensured. Under this distribution both sides win: the state spends less from the budget while the entrepreneur obtains profits through taxation privileges.

Another trend also stood out among those attending. By no means all businessmen expect "most favored status" from the state. For example, Ekoprom has organized its own joint stock company where exchange and banking capital are actively included. In the first month alone 300 million rubles [R] were deposited into its account.

Generally the truth is simple—seek and ye shall find. For example, that same Ekoprom has organized a no-loss ecolottery after securing the support of rich foreign partners. This action will bring exactly R20 billion to the ecobusiness's coin box.

Scientists also had their say. And not just in vigorous support of programs of ecological education and retraining of specialists, needless to say. Professor Golub (the Russian Academy of Sciences' Institute of Market Problems) proposed to formulate a principle for granting use of resource potential, for up to now it has been simply exorbitant for nonstate structures. Moreover, a register of types of ecoentrepreneurial activity should be prepared. After that the scale of tax privileges can be readjusted.

#### Feedback

In short, there was no shortage of proposals from either side. A great deal that was useful, necessary, and valuable was said. Everything that was said and proposed has been recorded and concrete proposals have been turned over to the conference's working group and will be studied by governmental structures. In order to move the ecological cart of services forward, an ecological market must be created as soon as possible, the presidential state advisor said. The minister of ecology pledged to take ecoentrepreneurs under his protection. He proposed creating a standing seminar and an information bureau within the Ministry for effective feedback.



In turn the editorial office is prepared to undertake to perform coordinating functions, said V. Chelyshev, editor in chief of the newspaper SPASENIYE.

The conference participants were offered a draft decision on issues of ecological entrepreneurship. It was discussed and augmented. In addition each entrepreneur filled out a questionnaire in which he expressed his attitude toward the nature protection cause in the country and outlined his business's group of problems. One may assume that the first step toward creating a data bank on ecological business has thus been taken.

We will tell about the resolution adopted and possible actions of parliamentary and governmental structures on the conference's results in subsequent issues. Follow our articles carefully.

### **Concessions Advocated as Environmental Policy Tool**

92WN0393A Moscow NEZAVISIMAYA GAZETA  
in Russian 17 Mar 92 p 4

[Article by Valeriy Yun: "'Better To Give Up What We Have Already Lost Anyway...': Concessions as an Environmental Policy Tool"]

[Text] In recent years scientific and popular publications have made people aware of a wide range of nonpolitical assessments of the state of the environment within the territory of the USSR and the CIS. The present economic condition of CIS countries in general and Russia in particular makes the environmental protection outlook even more dismal. The Russian Government's efforts to eliminate the budget deficit will hardly allow the allocation of the funds necessary to reduce the resource-intensiveness of our country's economy, and are in fact more likely to result in funding cutbacks as compared to years past. Local authorities are fully occupied with the search for money to subsidize a minimum level of consumption and to maintain the physical existence of the local population and are not able to influence the environmental situation. Furthermore, under present conditions those authorities are more interested in collecting fines for excessive use of natural resources than in efforts to improve the environment. The environmental lobby at all levels is losing its social base because people's concern over the state of the environment decreased last year in proportion to the disappearance of goods from store shelves, and this year has decreased inversely to price increases. The only positive factor in all this from an environmental standpoint is reduction in production volume, but the economic arrhythmia which accompanies that is causing increasingly frequent cases of intensive one-time environmental effects and has increased the likelihood of accidents; this could more than compensate for the resource-conserving effect of lower production. What is the solution?

As has by now become customary, in our search for an answer we are turning to the West. Indeed, in developed countries production facilities analogous to ours are

considerably better equipped with the necessary equipment and take more active environmental protection measures of a preventive nature. Under certain conditions it would not be difficult to find partners there who would agree to install that sort of equipment at our enterprises and keep it operating. But those conditions must be created. One of the tools for doing so could be concessions allowing use of the resources thus conserved.

Production which has a direct effect on one component of the environment almost always strikes a blow at other components as well. When we emit pollutants into the air we ruin forests; when we discharge untreated waste water into streams and other bodies of water we reduce the abundance of fish and degrade species diversity. When we use areas to store solid wastes from the power industry, mining or the metals industry we are putting the raw materials located in those places out of reach, polluting soils and poisoning rivers. Resources destroyed in this manner could instead be used to pay for help setting up a civilized resource use system in Russia.

The most appropriate form of payment is long-range concessions. A concession is an agreement to transfer the use of natural resources, enterprises and other commercial facilities belonging to the state or municipalities. In the version we propose resources located within the zone of destructive influence by any type of production could be transferred under terms which will reduce that influence, and in an amount comparable to that reduction. The term of the agreement could be linked to the length of time the concessionaire monitors the source of environmental degradation or to the length of time that such monitoring is required. The advantage of this system for Russia lies in the fact that by giving up one or several types of resources, particularly those which Russia itself could not have utilized, it will prevent losses of all the other resources located within an environmentally threatened zone and, most importantly, will also save the health of the people living there.

Precedents indicate that there are no objective difficulties standing in the way of realization of this project. In the Urals the Magnitogorsk Metallurgical Combine, the Tyazhpromeksport Association and the West German firm Comex have signed a long-range contract to set up a facility to process various types of slag from the combine's cinder dumps. Equipment will be supplied by the Western partner. Vysokogorskiy Ore Administration in the city of Nizhniy Tagil has proposed a similar contract for the processing of main tailings containing copper ore concentrate. Thus by moving fairly quickly we could begin formulating our own proposals within the near future: industry institutes, natural protection organs and academies of science have accumulated a large body of material on specific sites subject to environmental effects. The likelihood of strong demand for this type of proposals is fairly great, because many Western investors are being kept out of the Russian market by limited opportunities to engage in real estate transactions, and concessions offer such opportunities.



Also of major importance is the fact that applications for investing the most diverse amounts of capital can be found in this area.

Naturally this will not be enough to bring about fundamental changes in the way Russia uses its natural resources, but it is better to give up what we have already lost anyway and begin restoring the environmental health of the economy than to keep destroying the environment and ourselves at the same rate as in the past.

### **Far East Joint Venture Ready To Dismantle Nuclear Submarines**

*PM0204131792 Moscow Teleradiokompaniya  
Ostankino Television First Program Network  
in Russian 1445 GMT 29 Mar 92*

[From the "Novosti" newscast]

[Text] Soviet nuclear-powered submarines of the sixties and seventies will be dismantled at the "Zvezda" plant in the Far East. According to the newspaper KOMMER-SANT, a Russian-American joint venture has been set up for this purpose. Plasma cutting equipment for super-hard materials is to be supplied from the United States. It is assumed that the metal itself will be sold to foreign companies, while the reactor cores will be removed by Far East Fleet specialists and shipped out for burial, most probably near Krasnoyarsk. According to the newspaper, everything is ready in the Far East for dismantling some 40 submarines.

### **Environment Official on Future of Ukraine's National Parks**

*92WN0377A Kiev HOLOS UKRAYINY in Ukrainian  
28 Jan 92 p 14*

[Interview with M. Stetsenko, chief of the Administration of Nature Reserves and Other Protected Areas of the Ministry of Environmental Protection of Ukraine, by Mykola Khriyenko, commentator on ecological issues, in the rubric: "Ecology"; place and date not given: "Standards of Nature. What We Must Do To Protect Them."]

[Text] This was the subject of the journalist's conversation with M. Stetsenko, chief of the Administration of Nature Reserves and Other Protected Areas of the Ministry of Environmental Protection of Ukraine.

[Commentator] Esteemed Mykola Pylypovych, several years ago I had the opportunity to accompany you and other officials of the former State Committee for Natural Resources of the Ukrainian SSR to all the nature reserves and national parks of Ukraine. The materials of this trip were published in the republican newspapers. Among the numerous letters in response to these reports there were several whose authors opposed the creation of new areas of preservation. They argued that such reserves were being created in the West because there was money to burn there, while, given our poverty, we

should plow all our land and plant wheat so that we would need to buy less of it in the United States. Now then, Mykola Pylypovych, why do we need reserves?

[Stetsenko] The short answer is: to protect the genetic fund of the plant and animal worlds from extinction. Moreover, nature reserves serve as a standard for observing changes caused in our environment by our economic policies. As to the use of land, in highly developed countries, and especially in the United States, the Federal Republic of Germany, England, France, and Canada, no more than one-quarter of all lands are under cultivation, whereas in Ukraine this figure is already over 80 percent. The area of protected lands in Ukraine, on which economic activity is prohibited or restricted, comprises only 1,211,000 hectares, or a miserly 2 percent of the total territory of the republic. Compare this with the United States, where this figure is 7.6 percent, Canada—4.5 percent, Japan—5.6 percent, and Norway—12 percent. In the countries of Central Europe, fully restricted nature reserves comprise from 4 to 10 percent. Yet, as we are all aware, it is better not to compare the shelves of their food stores with ours. Only one conclusion is possible: we will not feed ourselves by plowing up lands set aside for preservation. On the other hand, their destruction is tantamount to the destruction of our nation.

[Commentator] The figures you cite are very convincing. While preparing for this conversation, I copied out the following data from the Red Book of Ukraine: 531 species of wild plants and mushrooms and 380 species of wild animals are presently threatened by extinction in Ukraine. What must we do to protect this wealth?

[Stetsenko] There is only one possible solution. We must create a ramified, scientifically founded system of nature reserves and national parks. If we fail to do so, our society may lose its most important asset—the natural environment. The ecological crisis will turn into a national catastrophe.

Thanks to the active support of Ukrainian scientists, as well as the press and the public, we have succeeded in creating two new nature reserves: Medobory in the Ternopil region and the Dniprovsko-Orilsky reserve in the Dnipropetrovsk region. We have also enlarged the area of the Ukrainian Steppe Reserve in the Donetsk region and the Carpathian Reserve in Transcarpathia. The former Crimean game reserve farm, which served exclusively as a hunting ground for high-ranking members of the party elite, has been reorganized into a nature reserve.

[Commentator] What is the situation with respect to other areas that need to be reliably protected from destruction?

[Stetsenko] All the documents needed to reorganize the Azov-Syvash game reserve farm into a national nature reserve are ready, despite the stubborn opposition we have encountered from the Kherson oblast executive committee, whose leaders view this unique corner of

nature only through their gun sights. The necessary documents have been prepared to organize the Rivne state nature reserve. In recent years, various categories of protected status have been granted to more than 200 natural sites covering a total land area of over 120 thousand hectares. Thus, as already noted, the total area of the nature reserve fund of Ukraine currently amounts to 1,211,000 hectares, which, as I am sorry to repeat, comprises only two percent of Ukraine's territory. This is far too little in comparison with the total area of similarly protected lands in highly developed countries.

[Commentator] What are the most critical problems?

[Stetsenko] Above all, the fact that Ukraine still lacks a single unified state system for managing national nature reserves. There are now 15 such reserves covering a total area of close to 210 thousand hectares. The maintenance of these reserves (employing more than 1100 persons, including 116 scientists) costs 4.2 million rubles (at the old prices) annually, of which 3.1 million come from budget appropriations. The Law on the Protection of the Environment of Ukraine stipulates that the reserves are under national jurisdiction. But this important sector of environmental protection is managed by seven ministries and by scientific subdivisions at the oblast level. Moreover, the reserves are being administered by organizations, whose main function is to manage economic affairs rather than to protect the natural environment. This means that the financing of the reserves, providing for their material and technical requirements, and meeting the social and everyday needs of the reserve employees are handled in accordance with what might be called the "residual" principle, ie, whatever is left over after other needs are met. The situation in the reserves is especially difficult today as market relations are being introduced. For that very reason the state must see to it that they are protected.

[Commentator] What do you have in mind specifically?

[Stetsenko] First of all, the implementation of the resolution of the Supreme Soviet of Ukraine of 17 February 1990, which obliges the government of the republic to settle the issue of placing the national nature reserves under the jurisdiction of the Ministry of Environmental Protection of Ukraine. This process is being hampered by some republican ministries and departments, as well as by the Academy of Sciences of Ukraine, the Ministry of Higher Education, the Council of Ministers of the Crimean ASSR, and the Cherkasy oblast executive committee. Their arguments are a worthy subject for a satirist.

[Commentator] Thank you, Mykola Pylypovych, the matter of the nature reserves is pretty clear. What is your opinion regarding extending the state management system to include national parks as well?

[Stetsenko] I am in favor of this. There are currently three national parks in Ukraine. These are the Carpathian park in Ivano-Frankivsk oblast, the Shatsky park in Volhynia, and Synevyr in Transcarpathia. They are all

under the jurisdiction of oblast timber production associations, whose principal function is to cut down the greatest number of cubic meters of timber possible. What kind of concern could there be on their part about protecting the environment under these circumstances? Especially in light of the struggle to survive in the market system. In my opinion, national parks, which are an integral part of the nature reserve fund, should be placed under the jurisdiction of the state system for administering areas of preservation. In other words, the Ministry of Environmental Protection.

[Commentator] What problems do you anticipate as the land begins to pass into private hands? What role will the local soviets play in this?

[Stetsenko] Once the local soviets are given actual rights to the land and its resources, a dangerous trend will inevitably emerge on the part of local government organs to review the status of sites of preservation and to begin exploiting these areas for economic purposes. There have already been instances of this. Local government organs and the oblast council in Transcarpathia adopted a joint decision to change the boundaries of the Carpathian state nature reserve, which had been established by a decision of our government. This action by the local government organs and the oblast council was found to be illegal. The sale of a portion of the lands of the Yalta state reserve in the Crimea to an English firm was also stopped in time.

[Commentator] Mykola Pylypovych, there are various aspects to the problem of protecting areas of preservation in Ukraine. For example, the life of unique birds is being threatened by the military proving ground located almost on the border of the Black Sea biosphere reserve in Kherson oblast. The Sataniv proving ground, covering an area of 147 hectares, is located in the middle of the Medobory State Reserve. How are these problems being resolved? What essential measures has the Ministry of Environmental Protection of Ukraine taken to protect lands designated as reserves?

[Stetsenko] The attainment of genuine sovereignty by our republic, as well as the creation of the Ministry of Defense of Ukraine, gives us hope that the problem of military proving grounds, which destroy animal and plant habitats, will be solved. For its part, the Ministry of Environmental Protection has had its experts work together with scientists to draft the Law on Nature Reserves and Other Sites of Preservation. The Cabinet of Ministers has already studied this draft and passed it on to parliament for review. If this bill is passed and goes into force, it will serve as the key for solving many problems: the creation of a single state system to administer reserves, the granting of reserve status and the expansion of the total area of protected lands, as well as the protection of state reserves and national parks from the upheavals resulting from the conversion to a market economy.

# **Soviet Military Bases Leave Legacy of Ecological Damage in Ukraine**

92WN0377B Kiev SAMOSTIYNA UKRAYINA  
in Ukrainian No 9, Feb 92 p 2

[Article by Vasyl Hayduk in the rubric: "The Army. A View From the Inside": "The Ecological Crimes of Soviet Militarists"]

[Text] It is no secret to anyone that the Ukrainian land is literally packed with military bases. Military airfields alone number close to 120. Add to this 700 factories of the closed category. This, of course, comprises only a tiny part of what we were able to discover, and this tiny part is kept secret under lock and key not only from ordinary mortals, but also from those whose job it is to oversee the state of the environment in the places where these sites are located. And this state, it should be stressed, is very unattractive, if not downright terrible. The things that happen in the closed areas are nothing less than ecological crimes that threaten the health and life of people. The crimes being committed by the Soviet Army can only be compared to the tip of iceberg, the remainder of which has yet to be studied.

This was the subject of a recent press conference organized by the members of the Green World ecological association and the Ukrainian Peace Council.

These groups succeeded in collecting data on some military sites and their destructive effect on nature and humans. Thus, for example, ponds in the Oleksandriya Dendrological Park in Bila Tserkva, Kiev oblast, are polluted by hexavalent chromium and gasoline. This is the result of the activity of the military aircraft repair plant, located near this famous park, through which ripple wondrous streams filled with even more "wondrous" water, which shrewd people sell for hard currency. For, indeed, this is not water but gasoline, which is in such short supply. One might well ask how it has found its way into these streams instead of the fuel tanks of airplanes? Only the army knows the answer to this question, because this is considered a secret.

One can hardly envy the residents of Uzyn. That they have no food products goes without saying, but there is not even a drink of plain water to be had in their town. The reason for this is the same as in Bila Tserkva: all the wells within a radius of 20-30 kilometers have been poisoned by gasoline. The gas layer measures from 10 to 15 centimeters.

This petroleum product seeped into the ground waters owing to the negligence of the service personnel at the military airfield.

To verify that the bottle contained gasoline instead of plain water drawn from the well, a member of the commission poured some of the bottle's contents into a plate and lit it. Bright flames danced before those at the scene, and heavy black smoke rose to the ceiling.

This water, if you can call it that, is drunk and used for cooking food by the residents of Uzyn on a daily basis. Dubno in Rivne oblast is in a similar predicament. According to an independent study conducted by experts, 36 thousand cubic meters of gasoline have seeped into the ground from the local military airfield.

The Uman Military Training Airfield. For many years, gasoline and other fluids from the airfield's stores of fuel and lubricants have been seeping into the Sukhy Yar ravine, where they have been poisoning fish breeding ponds. Hoping to cover the traces of their ecological crimes, the military sets the ravine on fire from time to time.

The photographic evidence of ecological crimes includes materials from the Medobory Reserve in Ternopil oblast. It is difficult to believe that a third of the territory of this nature reserve, which is under strict government control, is taken up by a proving ground for bombers. They say that this entire protected area is saturated with bombs that explode and kill both people and animals.

According to the "Greens," there is reason to suspect that they are continuing to build military sites near resort cities, in particular Mukachiv and Truskavets, in defiance of environmental protection legislation. A secret complex (possibly for stockpiling nuclear weapons) may soon appear on the border of Cherkasy and Kirovohrad oblasts. More than 300 hectares of valuable oak forest have already been cleared to prepare the site.

A coastal radar detector greets vacationers at the Ochakiv resort with high-particle radiation.

The following facts were also cited at the press conference: the cost of environmental damages caused by the military on the territory of the former People's Republic of Germany amounts to 20 billion marks. No one has calculated the cost of such damages in money and human health to Ukraine. Information about an airplane crash near the village of Semenivka in Chernihiv oblast was kept secret for a long time. Specialists eventually registered large doses of radioactivity in this region.

The "Greens" also testify that for a long period of time the military destroyed the environment in barbaric fashion while mining ores in "closed zones."

The public is justifiably incensed by evidence of poaching in reserves, where high-ranking members of the military killed rare animals.

We know that quite a few outrageous things occurred in the past with the blessing of local government leaders. Small wonder that dachas belonging to members of the military are rising like mushrooms after a rainfall in picturesque localities near Kiev.

The members of the Green World association stressed that to prevent such instances from recurring it is necessary to lift the veil of secrecy from everything associated with the conservation of nature and protection of the environment. Some things are already being done in this

respect. In particular, the Ministry of Defense of Ukraine will create a special commission, which will pursue the course set by the "Greens."

### **Report Suggests Earthquake as Cause of Chernobyl Disaster**

92WN0374B Moscow TRUD in Russian 26 Feb 92 p 4

[Interview with Doctor of Technical Sciences Ye.P. Ananyev, chief specialist at the All-Union Institute for the Operation of Nuclear Electric Power Plants, by I. Tsarev; place and date not given: "Explosion in a Fault Zone: What Led to the Chernobyl Tragedy—Personnel Errors Or..."]

[Text] Curious documents have come to the Phenomenon Commission from which it could be assumed that the primary cause of the accident at the Chernobyl AES [electric nuclear power plant] was... an earthquake.

They say that the sky brightened strangely not long before the catastrophe over Pripjat and that the dogs were howling gravely, as if they had a premonition of the disaster. Instruments also recorded anomalous changes in atmospheric pressure. That frequently happens before natural cataclysms. But what is this about an earthquake, anyway? No seismic station recorded any tremors at all in the region, after all... We asked one of the authors of the report "Proposed Causes of the Accident at the Chernobyl AES," Doctor of Technical Sciences Ye.P. Ananyev, chief specialist at the All-Union Institute for the Operation of Nuclear Electric Power Plants, to elaborate on his position.

[Ananyev] The official version of the primary causes of this catastrophe reduces everything to design shortcomings in the reactor and errors by the support personnel. I do not intend to deny either the former or the latter. I would like to note nonetheless that no one has yet given a complete explanation. According to the documents, the sad chain of breakdowns and errors that led to the tragedy started at 0034 on April 26, when the pressure dropped suddenly in the drum-separator. Everything started with that—the operators for some reason shut down the protection, and a catastrophic rise in temperature started... The explosion occurred at 0140. All of this is already well known. Only one thing remains unclear: Just why did the water pressure drop sharply?

There could be several explanations here—defects in the equipment, corrosion, sabotage, seismic shifts in the Earth's crust, when the pipes were cut as if by scissors... The first two points are doubtless possible, but not very likely, since the system was virtually new and was operating in nominal mode. Sabotage... Competent specialists seem to have repudiated that variation. It is not so easy with the seismics...

We have ascertained that the grounds of the Chernobyl AES were very unluckily situated. It can be seen clearly in photos from space that the plant is standing directly on the intersection of two faults in the Earth's crust. The areas of these faults could "breathe" even in a calm tectonic climate, causing powerful deformations in the foundation of the plant.

There is another "faithful sign"—the extreme changes in atmospheric pressure that always accompany so-called "slow earthquakes," and were well described by the American seismologist H. Kanamori. So then, according to the data of the Chernigov weather station, the closest one to Chernobyl, it may be said in analyzing the state of the atmosphere that the deformation process in the Earth's crust had started as early as April 19—that is, a week before the accident. A spatial processing of the weather maps testifies to the fact that a drop in the crust was occurring at night from April 19 to 20 in the area of the town of Zhitkovichi (the Pripjat depression), with an uplift of the terrestrial blocks from April 23 to 25 in the area of the Chernobyl AES. That could also lead to the rupture of the pipes, after which, wholly naturally, the water pressure started to drop...

[Tsarev] But what about the seismograms, which did not record underground jolts in the area of the AES either before or during the accident?

[Ananyev] That is just the point, "slow earthquakes" are exceedingly difficult to record with instruments. That does not mean, however, that they are any less dangerous than conventional earthquakes. Here are just a couple of sad examples: the mysterious destruction of the dike for the Stebnikov holding pond for caustic brines (Lvov Oblast) led to a major ecological catastrophe in 1983; the unique arched design of a high-voltage test jig in the city of Istra (Moscow Oblast, 1985) collapsed without visible cause... In each case the instant of the accident coincided with an extreme point of variation in atmospheric pressure, and comprehensive geological research that was carried out afterward showed that the facilities were located in an active seismic fault zone, like the Chernobyl AES.

[Tsarev] Why have you decided only now to go public with your version of the primary causes of the Chernobyl catastrophe?

[Ananyev] Indeed, why only now... We gave a report to the commission, but it declined our hypothesis, since the phenomenon of "slow earthquakes" itself is little studied and is not yet part of the academic canon of earth sciences. The commission is possibly correct as well. But attention must also be paid to this problem. There are, unfortunately, a great many facilities that have been built in dangerous fault zones without regard for the possible surprises of the Earth's crust.



### Study Finds Chernobyl Radiation Levels More Dangerous Than Calculated

LD3103084592 Moscow ITAR-TASS in English  
1147 GMT 30 Mar 92

[By ITAR-TASS correspondent Dmitriy Patyko]

[Text] Minsk, March 30 (TASS)—Chernobyl radionuclides of heavy metals proved more dangerous than was hitherto reckoned. The study of the migration of these particles by researchers at the Belarussian Academy of Sciences' Institute of Radiobiology has revealed that the particles migrate very slowly.

The hope that cesium and strontium ions would rapidly sink deep into the ground—at a rate of five to seven centimetres a year—before reaching subterranean waters upon losing part of radioactivity along the way and that they would pose no great danger has not come true.

It turned out that the actual rate of their vertical drift is measured in millimetres or even fractions of a millimetre a year. Even now, six years after the Chernobyl disaster, practically the entire radioactive debris still remains in the upper three-centimetre-thick layer of soil.

In such a case, scientists are convinced, adjustments should be introduced to the very concept of safe residence on contaminated territory. A per capita dose of exposure to radiation was previously calculated in the hope that radionuclides would rapidly sink deep into the ground.

### Ukraine Cabinet Adopts Resolution on Chernobyl Closure

LD0204164292 Kiev Radio Ukraine World Service  
in English 2100 GMT 1 Apr 92

[Text] The cabinet of ministers of the republic today adopted a resolution on measures for closing down the Chernobyl nuclear power station. As reported by the press service of the republic's prime minister, the main goal of these measures is to ensure safety at the nuclear power station to its complete halt, and social protection of the laid off workers.

The first and third power units will be shut down in 1993. By 1995 a complex of engineering observations at the station will be carried out and its complete shut down will begin. It is also pointed out in the resolution that it is planned to set up a construction assembly department already this year for realizing the shut down of the Chernobyl nuclear power station. The Academy of Science of Ukraine will conduct scientific, technical expertise as to nuclear and radiation safety of this process.

### Government Statement on Ecological Threat at Odessa Oblast Power Plants

LD0604202492 Kiev UKRINFORM in Ukrainian  
1305 GMT 6 Apr 92 (Tentative)

[Text] Statement of the Cabinet of Ministers of Ukraine in Connection With the Situation Which Developed in the

### Area of the Dubossary Hydro-Electric Power Station and the Moldovan State Regional Power Station

There is a threat of an emergency ecological situation developing in the rayons of Odessa oblast bordering on the Republic of Moldova. According to refugees arriving from the Dnestr area, a concentration of military forces of Moldova has been observed in the region of the Dubossary hydroelectric power station. Approaches to the station on the right bank [of the river] have been mined by the Dnestr guardsmen. The dam is under fire from snipers on the right bank of the Dnestr river. According to the same source, the station is being prepared for flooding.

In the opinion of competent specialists, in the event of destruction of the dam during possible military actions a considerable area not only on the territory of the Republic of Moldova but also in the border rayons of Odessa oblast will be flooded.

The tense situation in the Dnestr area poses a threat of incidents also at the Moldovan state regional power station, a breakdown of which would deprive 10 rayons of Odessa oblast of electricity. Apart from this, according to the available information, this station contains technical substances whose release into the air and the waters of the Dniestr due to a military conflict would do serious harm to the population and the natural environment of the region.

The Ukrainian Cabinet of Ministers draws the attention of the conflicting parties to the real danger for the peoples of Ukraine and Moldova which can arise as a result of escalation of the armed conflict in the Dnestr area, and calls for a peaceful and civilized solution to the problems at issue. The Ukrainian Cabinet of Ministers insists that the Government of the Republic of Moldova should take immediate measures which would guarantee, whatever turn events take, the safety of the population and the territory of the border rayons of Ukraine. Otherwise it will be held responsible for unforeseen consequences of the confrontation.

### Health Ministers Sign WHO Program on Chernobyl

LD1004085492 Moscow ITAR-TASS World Service  
in Russian 1102 GMT 7 Apr 92

[Report by ITAR-TASS correspondent Sergey Sedov]

[Text] Geneva, 7 Apr (ITAR-TASS)—The agreement on the implementation of the international program on the medical consequences of the Chernobyl accident has been signed in Geneva by Health Ministers Vasilii Kazakov, of the Byelarus Republic; Andrey Vorobyev, of the Russian Federation; Yuriy Spizhenko, of Ukraine; and World Health Organization (WHO) Director General Hiroshi Nakajima.

The agreement envisages the creation of the necessary organizational structure for the practical implementation of this program, the development of which was approved at the 44th session of WHO in May 1991. In it, the radical political changes that have taken place during this period in the former Soviet Union were taken into consideration. In particular, the future cooperation between the ministers of the three independent CIS



countries and WHO in the sphere of dealing with the medical consequences of the Chernobyl catastrophe will be organized "on the basis of their full and equal participation" in all the activities of the worked-out program. The coordinating functions for its implementation are being entrusted to the management committee made up of representatives of Byelarus, Russia, Ukraine, and WHO.

The agreement envisages the openness and free access to any information and means for implementation of the international program for dealing with the medical consequences of the Chernobyl accident. This provision should attract the interested states as well as the international organizations within and outside the UN system toward participation in this program. In particular, this concerns such important institutions as the EEC, the Council of Europe, and the International Agency for Atomic Energy.

#### **History of Radiation Safety at Semipalatinsk Detailed**

92WN0360B *Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 4 Jan 92 p 1*

[Interview with Fedor Grigoryevich Berestovskiy, former head of the radiology laboratory at Pavlodar Oblast Health and Epidemiology Center, by S. Gorbunov; date and place not given: "They Are Still Hiding Things From People"]

#### **[Text] Information on Radioactive Contamination of Three Oblasts Bordering Semipalatinsk Test Range**

The explosions beneath Semipalatinsk have ended. The wounded land no longer shudders. Society, having achieved the closing of the test ground in a stubborn battle, has quieted down. However, for a long time mothers will still cry over children, stricken by the nuclear genie that was never released. Nature does not have the strength to correct quickly that which people have done to it. This is the topic of a talk with F.G. Berestovskiy, former head of the radiology laboratory at the Pavlodar Oblast Health and Epidemiology Center.

[Gorbunov] Fedor Grigoryevich, before starting a discussion of the present, let us return to the first nuclear explosions at the Semipalatinsk test range and to the beginning of your work there.

[Berestovskiy] I began working for the Pavlodar Health Department in 1946. The first explosion, as everyone knows, was in 1949. Mass tests began in 1951. They did not inform us about what they were exploding or whether this would reflect on people's health. Only in June 1957 was I called to the oblast health department and offered a job monitoring the radiation situation in the oblast, i.e., heading a laboratory under the health and epidemiology center

[Gorbunov] So they conducted tests at the range for eight years and nobody had ascertained the level of radiation?

[Berestovskiy] Well, why?.. The military had made observations, but their data was classified.

[Gorbunov] And yours?

[Berestovskiy] And ours was, too. We performed radio-metric analysis of samples of soil, plants, dust, aerosols, water, and food products. Let me tell you, the specific beta radiation in the samples was rather high. We worked under the leadership of the Institute for Nuclear Physics, the USSR and republic ministries of health, and other departments. We transferred all these data, kept secret from the population, to our higher-ranking partners.

[Gorbunov] How, in the end, are things with the residents of the oblast, the measures to protect them, and prevention?

[Berestovskiy] Do you remember the brochures on civil defense in those days? "In case of nuclear explosion, lie down in a ditch, head toward the epicenter, or hide behind some other shelter." That is prevention for you. After one of the explosions there was such terrible contamination of nature that the instruments went off the scale. We reported this to the republic Ministry of Health. Soldiers came. "We know," they said. "Continue to work." They intimidated my staff and left. It turned out all right for us. We reported the exceeding of the PDK [maximum permissible level] by special delivery, and people at Semipalatinsk reported on this by telephone. They were punished.

[Gorbunov] Fedor Grigoryevich, are there sum total calculations of what was discharged into the atmosphere after the explosions and what the radiation background is?

[Berestovskiy] I can give you approximate data. Knowing the quantity and power of the explosions, they can be calculated in the specialized literature. Thus, in the period of surface testing, about 100 curies of plutonium-239, strontium and cesium, carbon-14, and other long-lived isotopes per square kilometer of surface entered the surrounding environment. This includes about 30 curies in Pavlodar Oblast.

In only eight years (1961-1969) the waters of the Irtysh carried off about 38,000 curies of radioactive strontium and almost 50,000 curies of cesium.

If we were to add up all the years of tests, these figures would be much higher for the contamination of soils, plants, and water. Moreover, a void in the shape of a pitcher forms during underground explosions. It has been proven that the explosions are provoking seismic waves in the soil. Radioactive (the military is calling them noble) gases are starting to seep out over the "pitchers," and radioactive fragments are also getting into underground waters. This means that the walls of the "pitchers" have been destroyed and the creeping radiation is spreading.

[Gorbunov] Can these figures be converted, so that even a nonspecialist can understand the real level of contamination?

[Berestovskiy] Certainly. I indicated the degree of contamination in hundreds and thousands of curies (naturally, this is not a one-time release). Yet 50-70 millionths (!) of a curie is considered a life-threatening dose for a person. The fact that our former USSR Ministry of Health and now even the republic health care agency constantly change the standard for the permissible level of radiation—and in favor of raising it—does them no honor. For this reason, not all the territories in Semipalatinsk, Pavlodar, and Karaganda oblasts, but only a few adjoining regions have been declared ecologically unfavorable in a radiation sense. Yet it has been determined in special normative documents that all three oblasts fall completely into the test range's zone of influence. Incidentally, I participated in the international conference of antinuclear movements held recently in Semipalatinsk, and this question was raised before the government of Kazakhstan there.

[Gorbunov] Explosions at the test range have been prohibited. They are planning to convert its scientific and industrial potential to peaceful uses. What is next?

[Berestovskiy] First of all, people must be told the truth. I am sure that the harm from the nuclear weapons tests that were conducted would have been far less, if explanatory work and protection of the population had been well organized. After all, to this day we know little about the actual level of contamination of the surrounding environment. The military, the laboratories which directly supervised the explosions, and the republic Ministry of Health are concealing it. To this day, a thorough accounting of all radiation projects and a study of premises being constructed and of construction materials which have elevated gamma radiation have not been organized. Little is being done to improve health care for the population, which has suffered from the tests. I could continue the list. Therefore, it is too early both for the activists of the antinuclear movement, and for the government of Kazakhstan to relax.

**From the author:** Since the disintegration of the USSR, it is already possible to say that no one will pay Kazakhstan and its population for the damage done by the nuclear tests. We have to bear this burden ourselves. Understandably, the republic budget does not have free resources for compensating the population or for organizing health care, food, and the construction of housing and sociocultural projects at the proper level. Yet no matter how hard it may be, we must not put off this charitable aid until tomorrow, the more so the day after tomorrow, especially for those who, living near the test range, were exposed to radiation for decades. The years will pass, those now living will die, and new generations will be born. But will they be people? Or are we contributing to the birth of new sick people and mutants? This is frightening. However, this threat is not being taken seriously, it seems. Government and oblast programs for

the social revival of settlements near the test range are being displaced; society has lost interest. In fact, no one is rushing to popularize the data about radioactive contamination. Yet, after all, closing the test range was only half the task... The real victory is to achieve matters such that it and the surrounding environment become safe, such that people's health is not threatened!

### **Kazakhstan Seeks Practical Use of Ecologically Pure Energy Sources**

*LD0604214192 Moscow ITAR-TASS in English  
1219 GMT 6 Apr 92*

[By KAZTAG correspondent Vladimir Ganzha for ITAR-TASS]

[Text] Alma-Ata, April 6—The state "Kazgeobiotherm" concern, formed in accordance with a resolution of the Kazakh Council of Minister, has been entrusted with the task of practical use of renewable and ecologically pure sources of energy.

The limitless expanses of Kazakhstan are so rich in natural sources of energy, that their use is possible for many generations to come without doing any harm to nature. The sun in the deserts here shines for 300 days in a year. Eight underground boiling water pools have been discovered here. Kazakhstan already has the necessary experience of using renewable sources of energy. In the Tien Shan mountain range the republic's first wind turbines have been erected, which supply electric power to communication facilities. In a number of southern provinces "solar boilers" have been constructed. Karaganda's "Vetroen" scientific production association makes windmills for raising water from deep wells in remote pastures and cattle-breeding farms. Kazakh engineers have developed thirty different types of solar energy installations.

According to the chairman of the concern, Anatoliy Krashenninnikov, soon it will take up production of second generation installations for use of wind and solar energy. The work will be accomplished in collaboration with the scientific production association of the military-industrial complex. Work on the development of the first of its kind, so called self-sufficient houses in their energy requirements, dwellers of which will be able to heat their flats with the help of solar energy, will begin in near future.

### **New Variant for Diverting Ob River Runoff Proposed for Aral Region**

*92WN0372A Alma-Ata POZITSIIYA in Russian  
No 23, 1-15 Dec 91 p 12*

[Article by T. Basabikov, engineer: "Can the Aral Sea Be Saved?"]

[Text] There is probably no other region of ecological disaster anywhere on earth like the Aral Sea region. More than 30 million people here are currently suffering from

an impending catastrophe that has begun as a result of the disappearance of the sea. Actually the center, with the silent consent of the Central Asian republics and Kazakhstan, in the attempt to resolve the problem of cotton and rice, doomed to a slow death the nations that have lived for centuries around the Aral Sea. And when "the thunder crashed," there began a feverish effort to develop ideas for saving the Aral Sea. Those ideas include the rerouting of the runoff of the Siberian rivers, that was developed by the Soyuzprovodkhoz Institute; the recommendations by the Institute of Geography, of the Kazakh SSR Academy of Sciences, based on the results of the Aral-88 expedition; the materials from the competition to save the Aral Sea, which was held by USSR Gospiroda in 1990; and many others.

Unfortunately, no real assistance is being provided to the Aral region. And with every passing day the situation is becoming aggravated by the fact that the volume of the Aral Sea is dropping catastrophically and the life around it is dying. The people who are suffering most of all are those who inhabit the shores of the sea. What are they guilty of having done to their homeland? Why have they been doomed so cruelly to slow extinction? What are they guilty of having done to their offspring and to their own future? It is no secret that at the present time approximately 60 percent of the women of childbearing age in the Aral region suffer from anemia. Every fourth child born here suffers from various abnormalities. How can one reconcile himself to the fact that, even before a child is born, he is doomed to die? Salt from the bottom of the Aral Sea has already been recorded in Mongolia and India. It will probably be difficult to evaluate fully the increasing perniciousness that the disappearance of the water in the sea will have for Central Asia and Kazakhstan. With every passing year this region of ecological disaster will expand, and the salt from the bottom of the dried-out sea will spread more and more intensively to greater distances.

In the foreseeable future, the runoff of two rivers in Central Asia—the Syrdarya and the Amudarya—because of the intensive use of that runoff for irrigation and for the supply of water for household and drinking purposes, will not reach the Aral Sea. But, during individual years with a large amount of water, no more than 15-20 cubic km of brine with an admixture of herbicides and pesticides from the cotton and rice fields will enter the sea.

Because of the imperfect system of irrigation, something of the order of 40 cubic km of water are expended ineffectively on overflows. As a result, in the Central Asian republics and Kazakhstan more than 3.5 million hectares of land have been salinized. It would seem that all you have to do is to make an improved irrigation system and the expenditure of water will decrease by a factor of many times. However, the reorganizing of the existing irrigation systems in the region requires 600 billion rubles and many decades.

But what will happen to the Aral region during that time? Just one thing—a catastrophe, the scale of which will not only extend to the Central Asian republics and Kazakhstan, but will also affect the entire world.

Despite this inefficient expenditure of water, it does not appear to be possible, because of the social tension, to change the situation in the direction of improving the use of the runoff of these two rivers to raise the level of the Aral Sea. Today no one will release beyond the confines of the republic the water that has been distributed in accordance with the documents governing the shared use of the water. Instead, the attempt will be made to use that water locally for irrigation, in order to feed the region's population, which is increasing at an extremely intensive rate.

Therefore, in order to raise the level of the Aral Sea it is necessary to return to the idea of withdrawing part of the runoff of the Ob River, except that this time it will be from its lower reaches, thus causing the least harm to the ecology, navigation, the hydrology of the river, and its drainage area.

In its lower reaches the Ob River transects the Central Siberian Elevation with relative markers of 110-160 meters above sea level. On the left bank, the elevation approaches right up to the river, which, in the west, crosses into the spurs of the Central Urals. The Khugat, Yemyugan, Mutom, Nyurikh, Ase-Uy, and other rivers have their beginning in this elevation. But the Ob River at this collection point has an average water expenditure that is equal to 69,000 cubic meters a second, with an annual expenditure of 360 cubic km a year.

At the present time the sea receives 15-18 cubic km of highly mineralized water from the Syrdarya and the Amudarya. If one could guarantee the annual transfer from the Ob River of 53 cubic km, within seven-eight years one could bring the level of the Aral Sea up to the 50-51 meter marker.

Subsequently, in order to stabilize the sea at this level, it is necessary to provide 27-30 cubic km of water annually, with a consideration of the partial intake of brine from the Syrdarya and the Amudarya. The following scheme is proposed for bringing in the water from the Ob across the Turgay Gap, and transporting it in a self-flowing canal to the Aral Sea. This requires having just one pumping station to lift the water from the river from the 13.5 meter marker to the 115.4 meter marker at the collection point near the Satino settlement on the Ob River. Then, traveling along a canal 2460 km long (442 km of which are a reservoir, and 2017 are the canal in soft soil), the water will reach the Aral Sea. If water is fed into the canal, during the summer period (high water, 180-200 days), at the rate of 2000 cubic meters a second and, during the winter, 1400 cubic meters a second, it will be possible to transfer a total of 53 cubic km of Ob water. But the level of the Ob River with the maximum collection of water will drop below the collection dam by no more than 0.2 meter, and during the winter, no more

than 0.32 meter. The canal, running initially from east to west for a distance of 350 km, will approach the city of Iyden, which is situated in the eastern Urals. Then the direction of the canal changes, and the canal goes to the south and the southeast. At the collection point of the Ubagan River, it reaches the Turgay watershed.

Throughout its course, the canal intersects 34 large and small rivers, the total runoff of which constitutes approximately 13.5 cubic km. At the places where the main canal intersects the rivers, it is planned to install on those rivers backwater structures consisting of earthen dams with a low and medium pressure rate.

Thus, it is possible to remove from the runoff of the Ob River 53 cubic km of water annually. When the Aral Sea is filled to the 50 meter marker, the stabilizing of the level at that marker will require, as has already been stated, the intake of 27-30 cubic km of water. The remaining 23 cubic km of water should be used for the providing of high-quality water to the cities in the Urals, such as Nizhniy Tagil, Sverdlovsk, Miass, Chelyabinsk, and others, which are already feeling that need today.

If this canal is built in the future, it will guarantee the saving of the Aral Sea and the adjacent region, providing the cities and populated places in the Eastern Urals with high-quality water and guaranteeing navigation by sea and by canal for a length of 2460 km, and, in the long view, the rapid development of industry and agriculture in the canal zone.

#### **Aral Committee Officials Protest Squandering of Funds**

*92WN0372B Tashkent PRAVDA VOSTOKA in Russian  
13 Feb 92 p 3*

[Article by S. Mirzayev and Yu. Kovalev: "Forced Decision: Why We Left the Committee To Save the Aral Sea"]

[Text] At the constituent conference of the participants of the Aral movement in March 1987, Pirmat Shermukhamedov was elected chairman of the Committee to Save the Aral Sea, and we were elected as his deputies.

Everyone believed then that, under the powerful pressure of public opinion, all the obstacles on the path of the water would inevitably come crashing down, and the Aral Sea would become powerful, abundant, and majestic once again.

The work proceeded well. Soon a special Aral Fund was also created, and it began to receive, from all corners of the country, streams of voluntary contributions, which subsequently came to millions of rubles.

In the area of the ecological disaster itself, committee sessions were held and the representatives of that committee became participants in the Aral-88 public expedition. A competition was conducted to find the best plan for saving the Aral Sea. There were a number of

practical-scientific conferences on Aral problems. Expanded sessions of the committee with the broad participation of the scientific and technical public discussed various ideas for restoring the body of water and for achieving a major improvement in the entire situation in the region. Collections of essays and articles written by public-minded nonspecialists and scientists about the problems of the Aral Sea were published.

In a word, the committee actually operated. And all this was done without expending a single ruble of the money in the Aral Fund. Instead, sponsors helped the committee with its finances.

Then the committee's activity rate began to fall. Its chairman, P. Shermukhamedov, frankly replaced the practical work with interminable "sittings" in presidiums, with flashing images on the motion-picture and television screens, with numerous trips around the country, etc. The committee leadership began to operate in accordance with the notorious method, "Let's make a lot of noise, guys, let's make a lot of noise!" Actual work was replaced by unrestrained self-advertising.

In personal conversations and at official meetings, we spoke many times with P. Shermukhamedov about the need to change the work style, to change over from the interminable lip-flapping to real work. We also made written recommendations about a list that had been coordinated with the local authorities for first-priority projects to meet social, cultural, and personal needs in the Aral Sea region, in the construction and equipment of which the committee could help, and about the acquisition of mobile medical stations, bath houses, and water-desalinization units. All of this disappeared without a trace once it reached the chairman.

Exactly the same fate befell the proposed drafts of the committee's long-range work plans, which necessarily included the question of the movement of the money in the Aral Fund. The reasons for this "cold" attitude toward the last-mentioned item did not become clear to us until December 1991, when, first over the radio and then in the ERK newspaper, a statement was made by I. Sagdullayev, the committee's responsible secretary. For us the facts cited by him were a bolt from the blue. It turns out that, for more than a year, the so-called Philanthropic Commercial Center, that had been created in secrecy from us by P. Shermukhamedov, had been in existence under the Aral Committee. And it had been existing on money from the Aral Fund.

The statute governing that fund states that its money can be expended only on the basis of a committee decision and for strictly defined purposes. But P. Shermukhamedov, by a simple flourish of his pen, had transferred to the commercial center 3 million rubles, and then a million more. And all of this was done without his own deputies being aware of it.

The "center," in turn, formed a network of all kinds of "cooperatives" and "firms" that are in constant need of



financial support. In a word, there occurred the most real squandering of truly national, holy Aral money.

Previously, at one of the committee sessions, there had been a categorical rejection of the idea of allocating 25,000 rubles to create a documentary film concerning the fate of the region. But subsequently the chairman allocates 180,000 rubles for the same purpose. Where did this largesse come from? Could it be because the film's creators also include P. Shermukhamedov himself?

One of the laboratories was refused assistance in financing operations to create a new water-desalinization unit. At that time, the amount being discussed was 80,000-10,000 rubles. Subsequently the chairman lavishly handed out 130,000 rubles. Why? For the same reason that he had allocated 100,000 rubles for the construction of a bath house in Magnit. Can the fact that this region is ecologically in the worst situation give it the right to priority over Muynakskiy, Tokhtakupyrskiy, Karauzyakskiy, and other rayons? Nothing of the sort. It is simply that this is the "hometown" of committee chairman P. Shermukhamedov, and he wants to appear in the most favorable light to his "hometown buddies" there. That desire is completely understandable. What is incomprehensible, however, is something else: why he must create his "brilliant reputation" not at the expense of his own personal savings, but at the expense of the fund for the long-suffering Aral Sea.

It was these and other facts pertaining to the squandering of the Aral funds that forced the committee aktiv to meet at an emergency session to find out what had been happening to the Aral Fund. P. Shermukhamedov was absent. But the next day he gathered a certain group that appropriated for itself the functions of a conference of the Aral movement, where there was a discussion of the question of allocating from the Aral Fund 100,000 rubles to organizations that do not have any relationship either to the Aral Sea or to its problems. And, in order to give an air of legality to the financial operations, a "special commission" for the expenditure of the fund's assets was immediately formed. It was as though the statute governing the Aral Fund did not even exist, a statute that defines clearly who can expend that money, how, and for what purposes.

As far as the squandering of the money in the Aral Fund is concerned, it would seem that the final word will be spoken by the duly empowered agencies. For ourselves we do not deem it possible to remain where the shadow cast by the committee's dubious actions can fall on us.

There is a need for an urgent convoking of a conference of the participants in the mass crusade for the salvation of the Aral Sea and the region surrounding it, in order to give that crusade an impetus for moving it ahead.

People might ask, "What about the leadership of the Writers Union, under whose 'roof' the Committee to Save the Aral Sea and the Area Surrounding It was created?" The answer is very brief: during all the time that the committee has existed, the board of the Writers

Union and its secretariat have not discussed even once any questions linked with the committee's activities or the fate of the Aral movement.

We hope to see this item published in PRAVDA VOSTOKA. Otherwise we shall be forced to appeal to the central press.

[Signed] Former deputy chairmen of the Committee to Save the Aral Sea and the Area Surrounding It:

S. Mirzayev, people's deputy of the Republic of Uzbekistan, doctor of geological and mineralogical sciences, professor, prorector of TIIMSKh [Tashkent Institute of Irrigation and Mechanization of Agriculture];

Yu. Kovalev, writer, honored cultural worker of the Republic of Uzbekistan.

**Editor's note:** PRAVDA VOSTOKA has already written about what we could call the "window-dressing" activities of the Aral Committee and the empty trips made by numerous delegations to the disaster zone. Unfortunately, no one listened to our statements. This article seems to us to be a logical continuation of the discussion.

**Incidentally, we are ready to give space in the newspaper for convincing views concerning the letter written by the former deputy chairmen of the Aral Committee.**

#### **Estonia's Environment Minister on Cost of Baltic Sea Cleanup**

*OW1104145892 Moscow BALTFAX in English  
1427 GMT 11 Apr 92*

[Following item transmitted via KYODO]

[Text] Estonian Environmental Protection Minister Tonis Kaasik told BF [BALTFAX] that the implementation of the 20-year-long program of reviving the Baltic Sea will require 18 billion ECU [European currency units]. He took part in the Helsinki international conference April 9 which adopted the Convention on protection of the Baltic Sea and the declaration on the program of its revival. The cost of the program is estimated in Estonia at 1.55 billion ECU. Most of the money will be spent for reconstruction of electric power stations in Narva polluting the atmosphere. It is also necessary to close or reconstruct dangerous plants in Kohtla-Jarve, Tallinn, Parnu, Paide and Kehra.

Sponsors of the program have not yet been found. Kaasik said that the situation will become clear by this autumn. Possibly, the developed countries of the Baltic region will grant long-term preferential credits to Estonia, he suggests.



### **Latvia Lodges Protest Over Chemical Weapon Pollution in Baltic**

*LD1004024692 Riga Radio Riga Network in Latvian  
0900 GMT 7 Apr 92*

[Text] To continue with an ecological item which will not be pleasant, the Environment Protection Committee of the Republic of Latvia has sent a letter to the Commander of the Baltic Fleet, Admiral Yegorov, with a request to announce the precise coordinates of the dumped chemical weapons of Hitlerite Germany, and to present detailed information about these weapons. According to reports that have been publicized, Soviet sailors, from 1945 to 1947, fulfilling the resolution of a tripartite commission of the United States, Great Britain and the USSR, dumped a huge load of captured chemicals near Liepaja and near the islands of Bornholm and Christiansoe [Denmark].

Now it has become known at these places, at a depth of more than a hundred meters, there are barges and containers loaded with up to 300,000 tonnes of aircraft bomb shells, with poisonous substances that cause nerve paralysis and skin irritation. Because of metal corrosion, the disintegration of this material is inevitable; it may happen around the year 2000 and threatens an ecological catastrophe, says the letter. This situation creates alarm among the inhabitants of the republic. The dumping of such a dangerous load in such a closed and shallow basin as the Baltic Sea was done without considering seriously the possible consequences, said the head of the Water Ecosystem Protection Administration of the Environment Protection Committee, Vaclavs Galanskis, to a LETA correspondent. Latvia does not have the necessary technical potential to render harmless such poisonous substances in its territorial waters.

He believes that in this connection the government of the republic should immediately consult with the members of the tripartite commission that is responsible for the mistake that was allowed, which relates not only to the United States and Great Britain, but to Russia as well, as rightful heir to the USSR. There should also be bilateral talks about this problem. Finally Galanskis said that the Environment Protection Commission has worked out a program for prevention of dumping of chemical weapons.

### **Lithuania's Greens Score Government on Environment Initiatives**

*92WN0360A Vilnius LETUVOS RITAS in Russian  
17-24 Jan 92 p 2*

[Article by A. Maldeikiene: "Is Ecological Catastrophe Inevitable?"]

[Text] Lithuania's Greens met with members of the government: Minister of Power Engineering L. Asmantas, Minister of Communications J. Birziskis, and Minister of Construction and Urbanization A. Nasvytis.

One of the most famous members of the Greens movement in Lithuania, Professor A. Kudzis, began pessimistically: "We are naturally heading for an ecological catastrophe." There are many reasons for this: To this day the law on preservation of the surrounding environment has not been passed, spheres of influence have not been divided among the government, self-management, and enterprises, the government is not familiarizing society with the ecological programs that it is drafting, supervision over the resources designated for preserving nature is insufficient, and so forth.

Members of the government stood up for their point of view. Minister of Communications J. Birziskis, having said that the Greens are too impatient, continued: "We are doing and will do everything possible. After all, one may make up as many programs as one pleases, but we are still not Austria." There is a multitude of problems. "Right now, for instance," said the minister, "the strikers are waiting for me." And he asked a rhetorical question: "To whom would you give the money, the ecology, or the strikers? I will give it to the strikers."

As far as power engineering is concerned, there is a mass of problems here too: the construction of the Kaisiadoriai GAES [pumped-storage hydroelectric power station] and the Ignalina AES [nuclear electric power station]. The extraction of oil in Lithuania is also becoming a great ecological problem. Minister of Power Engineering L. Asmantas confirmed: "All my troubles began with the oil. There are people who would like to put about \$40,000 annually into their pockets from this. But what will the oil cost nature in Lithuania?"

From the speeches it became clear that the Greens, speaking of the insufficient competence of authoritative institutions, really are right. For instance, the construction of purifying installations in Klaipeda, Kaunas, and Sauliai has barely advanced for reason of disagreements: Who in fact is the owner of the construction sites, the government or the local governments?

### **Lithuania, Sweden Sign Environmental Cooperation Accord**

*LD0504053392 Vilnius Radio Vilnius Network  
in Lithuanian 1800 GMT 31 Mar 92*

[Text] Evaldas Vebra, general director of the Department for Environmental Protection, on behalf of the Government of Lithuania, signed an agreement between the Republic of Lithuania and the Kingdom of Sweden in Stockholm today.

This agreement provides a legal basis for environmental protection cooperation. Sweden will provide varied assistance to Lithuania. For example, it will assist in preparing an ecological analysis of proposed projects, build purification facilities, spread ecological education and other projects.

## REGIONAL AFFAIRS

### EC's Fifth Environment Action Program Highlighted

92BR0181A Antwerp DE FINANCIEEL-  
EKONOMISCHE TIJD in Dutch 7 Jan 92 p 18

[Unattributed report: "Fifth Environment Action Program To Go Beyond Legislation: European Commission Favors Including Cost of Environmental Effects in Price of Product"]

[Text] Amsterdam—The cost of the damage a product causes the environment must be included in its price. Manufacturers will not only be responsible for the environmental effects of their product from the moment it leaves the factory, but all the way through the waste stage. This is one of the main objectives of the European Commission's fifth environment action program, which will be published soon.

The action program, "Towards Durability," which is to be discussed by the European Commission next month, offers a framework which requires the participation of politicians, managers, and citizens. The program must see to it that "the present generation passes the environment on to the next generation in such a sound condition that prosperity and welfare can be maintained on a high level." In its action program, the Commission argues that the measures taken over the past 20 years on a European level have proven inadequate in solving the present environmental problems. The new policy aims at preserving the quality of air, water, and soil, at managing the urban and coastal areas, and at handling the waste problem.

The proposed program states that legislation alone will not allow the objectives to be reached. In order to force industry to behave responsibly, new instruments are required, such as the above-mentioned recalculation of the cost price and a greater responsibility for the manufacturer.

In addition, the Commission is contemplating an environment fund which could be used by poorer member states to finance environmental measures. The patterns of behavior and consumption could be changed by more instruction and training and by a wider dissemination of information. The Commission is also considering the possibility of rewarding environment-friendly behavior, e.g., by granting financial benefits.

The European Commission wants to work out special action programs for five sectors. These sectors, which constitute a heavy load on the environment, are: industry, energy, transportation, agriculture, and tourism. According to the Commission, measures taken at the Community level are the most effective for these sectors.

In order to see to the implementation of the action program, the Commission recommends that a European

network of environment inspectors be set up. In addition, a consultative committee, consisting of representatives from the companies, consumers, interest groups, and authorities, as well as a political committee made up of members of the European Commission and high-ranking officials of the Community's member states should coordinate the European environmental policy.

After the discussion of the action program in the Commission next month, the European Council of Ministers must still approve the action program. Because pollution does not stop at the borders of the European Community, the Commission will urge, at the world environment conference, UNCED, to be held in Brazil this summer, that a charter establishing the rights and obligations with regard to environment and development be adopted and that a corresponding worldwide action program be worked out.

### EC Goals for Environment Summit Discussed

92WS0414B Duesseldorf VDI NACHRICHTEN  
in German 21 Feb 92 p 4

[Article by Christa Friedl: "Political Pressure Required for Environmental Protection in EC; Farewell to Lowest Common Denominator; One Out of Every Two Guidelines Not Yet Put Into Practice"]

[Text] Brussels, 21 Feb 92 (VDI-N)—For many EC member states, environmental protection is an evil: Up to now, half of the environmental guidelines created by Brussels have not yet been put into practice. With the so-called Fifth Environmental Action Program, the protection of water, soil, and air in the Community is supposed to become more effective.

Discharges of untreated industrial effluents is on the agenda in the southern EC states in particular. DM8 billion a year must be invested for the protection of the waterways in order to raise water-quality levels to those of the 1950s.

The hole in the ozone layer, the greenhouse effect, increasing pollution of the North Sea and the Baltic, the threat to ground water posed by intensive agriculture, and, not least of all, the growing mountains of garbage—there is no shortage of pressing environmental problems in the European Community. "No one has any reason to rest on his laurels." Ten months before his term as Community commissioner for environment comes to an end at the end of this year, Carlo Ripa de Meana spoke out once again in plain language last week in Brussels.

There are not many laurels at all. EC environmental protection measures are often only on paper. According to a study by the Brussels Club, "European Environmental Policy," more than half of the approximately 160 EC guidelines concerning protection of the environment have to this day not yet been implemented or are in practice completely undermined by countless special regulations. In 1990 alone, the EC issued warnings to member states 168 times for this reason. "Often without

any results," said Laurens Brinkhorst of the EC Commission's General Directorate for Environment. "The realization that environmental protection not only costs money, but also brings in money is just now beginning to gain acceptance."

De Meana said last week in Brussels that 1992 would be the year of the environment for the EC. He indicated that the UN summit on environmental affairs in Rio de Janeiro in June would be the biggest challenge. "We have to speak with one voice there," the environment commissioner appealed to his listeners. The Community of Twelve has also spoken with one voice in the past, but that was mostly the voice of the lowest common denominator. The reason: The European act requires unanimity among the member states for the adoption of appropriate ordinances or guidelines. Thus, guidelines or ordinances pertaining to the environment are oriented only in terms of just what the most powerful state to apply the brakes deems feasible.

"No citizen of Europe can yet understand the environment policy in the EC," Brinkhorst complained. The procedures are so complicated, communication among the different agencies is poor, and the bureaucracy is too slow. "There is an abundance of examples of this. Brinkhorst cited one of the most cogent of these last week at a Brussels Club conference. "To this day the member states have not yet reached agreement on where the European Environment Agency should have its headquarters." A great deal is expected of this institution. Thus, the agency is expected to collect, coordinate, and evaluate data on the pollution of water, soil, and air from all 12 member states, to monitor the flow of garbage, keep tabs on the transporting of hazardous substances, and at long last provide the background information necessary to make environmental policy decisions.

France is still blocking the decision [on the agency] because discussion of the headquarters of the agency is linked with the future headquarters of the European Parliament. "These two questions must be separated," Brinkhorst said to VDI NACHRICHTEN. As he sees it, the offices of the agency could remain in Brussels and the agency directors would rotate from city to city within the EC. "A decision on this must be reached within the next few weeks," Brinkhorst insisted.

The Community of Twelve looked into the climatic changes we are threatened with last year. The member states—not counting the new [German] federal states—emitted about 3.1 billion tons of carbon dioxide (CO<sub>2</sub>) in 1990, which, according to the EC Commission, corresponds to 13 percent of the worldwide CO<sub>2</sub> burden of human origin. In a resolution the member states set themselves the goal of reducing greenhouse emissions to the 1990 level by the year 2000.

Price policy offers the most effective incentives for conserving energy. "Energy is too cheap in the Community," Peter Faross of the EC Commission's General Directorate for Energy asserted. According to current

plans, a barrel of crude oil should be \$3 more expensive as of 1993 with the introduction of a tax on energy. This surcharge will be increased to \$10 a barrel by the year 2000. De Meana says: "This will lower energy consumption to the point that the Community will have attained its goal of reduction."

Despite lengthy debates, there are still vehement opponents of the energy tax. "New taxes will hamper the industry's willingness to invest," Guido Venturini, the director of the Italian chemical association, Federchimica, predicted at the Brussels Club conference. Alain Terrenoire of the French energy combine, Elf Aquitaine, also rejected a tax on energy. "Such burdens should not be introduced in the EC alone; they weaken firms' ability to compete worldwide."

The "Fifth Environmental Action Program" is awaited with suspense for the end of this year. The new guidelines for Europe's environmental policy should be established in it. The details have not yet been negotiated. Environment Commissioner de Meana only made public the general direction they will take. "Environmental policy in the EC must no longer be isolated, rather it must influence all other policy areas."

## FINLAND

### Eurajoki Nuclear Waste Depository Commissioned

LD1004154292 Helsinki Suomen Yleisradio Network  
in Finnish 1600 GMT 9 Apr 92

[Text] The Industrial Power Company today received a Council of State license to commission the final depository plant for medium- and low-activity nuclear waste. The plant is situated in the grounds of the Olkiluoto nuclear power plant at Eurajoki. The license expires after 60 years. This is the first depository built for the final storage of radioactive substances in Finland, and it will probably accept its first waste this spring.

## GERMANY

### Disused Waste Dumps Pose Problem in Eastern Germany

92WN0365A Leipzig LEIPZIGER VOLKSZEITUNG  
in German 28 Feb 92 pp 1, 2

[Unattributed report: "Thousands of Sites Contaminated with Environmental Pollutants"]

[Text] More than 25,000 sites in eastern Germany are suspected of contamination from disused waste dumps. Particular problems are posed by land in the rural district of Bitterfeld as well as that belonging to Wismuth and former Soviet army sites. In some places it will be impossible to clean up the sites.

In eastern Germany, according to findings from the Land environmental authorities, there are 27,766 sites

thought to be disused waste dumps, of which about 2,500 have been classified as requiring cleanup. However, Helmut Czech, director of the Main Mining Office for Northrhine-Westphalia, said at the environmental symposium, "Disused Waste Dumps in the New Bundeslaender," held in Dresden, that this accounted for only about 60 percent of all the contaminated land. In most cases it would not be possible to determine who was responsible for the pollution.

Special problems were presented by radioactive dumps from mining operations and the sites vacated by the former Soviet Army. About 1,200 km<sup>2</sup> of radioactive property from the closed-down Wismuth mine was now owned by townships. Brown coal cleanup would cost more than 30 billion German marks [DM].

Michael Wilken from the Engineering Cooperative Technical Environmental Protection in Berlin said at the Bitterfeld conference that in the Bitterfeld rural district the soil is severely contaminated locally with dioxin. Chemist Dietmar Barakowsky from the Bielefeld Institute for Environmental Analysis said on German radio that he thought in some areas the contaminated soil could not be cleaned up.

An office for eastern Germany of the German Environment Conference 92 (DUT) has been opened in Halle. Its function is to help with organization and coordination for the new laender in advance of the environmental convention planned for September in Frankfurt/Main.

It was additionally announced at the Bitterfeld conference that closing down production capacity at the industrial sites of Bitterfeld, Halle, and Leipzig has had a beneficial effect on water quality in rivers in southern Saxony-Anhalt. Minister for the Environment Klaus Toepfer (CDU) had said on Wednesday at the opening of the four-day conference that the Bitterfeld region, marked by serious environmental damage, was on the way to becoming a new industrial site.

For the first time the results of a two-year environmental study covering a broad area of the Bitterfeld rural district will be presented by experts from all over Germany at the scientific convention.

### **Fiber-Reinforced Pistons To Reduce Diesel Pollution**

92WS0395B Stuttgart BILD DER WISSENSCHAFT  
in German Mar 92 pp 38-41

[Article by Richard Sietmann: "Fibers in the Engine"]

[Text] New-type pistons reduce engine exhaust. Two German companies are the first producers of fiber-reinforced automobile pistons. Engine pollutants are reduced to a minimum.

"Something new for the world and ready for production," enthused Wolfgang Henning of Kolbenschmidt AG for a development that was awarded the VDI Society

for Materials Technology "Prize for Innovative Materials-Applications 1991." The fiber-reinforced pistons for vehicle diesel engines, developed by the Neckarsulm enterprise and also later by the Mahle piston manufacturer in Stuttgart, represent the first structural part of a new generation of metals, now entering the mass production stage. This new development will shift the war against environmental pollution away from the exhaust fumes to their source—the combustion chamber. Soot particles, which do not even occur when combustion is complete and thorough, do not even have to be trapped by soot filters in the exhaust stream.

The first step toward complete combustion is by way of a better vortexing of the fuel-air mixture. The solution to this problem lies in the geometry of the piston. Instead of an even piston surface, the designers deliberately introduced a depression. The second step required a true piece of high technology however. The depression causes the ignition pressure and the combustion temperature to rise, thereby reducing the amount of unburnt residue. However, conventional piston alloys are not suitable because pistons made of cast iron and steel cannot withstand the required heat owing to their poor heat conductivity, while the more heat-resistant materials like titanium are too expensive for this purpose.

The prize-winning solution, found by the 10,000-man Kolbenschmidt Company in Swabia, which with a yearly turnover of 1.3 billion German marks [DM], is one of the leading developers and suppliers of engine and automobile industry, has now opened up the high-temperature field with marketable metals. When a material is no longer useful for a particular purpose, the Neckarsulm workers create a new one by combining materials. Implanted short ceramic fibers were found to strengthen the heavily taxed rim of the internal combustion chamber depression. "It would have been much too costly to have introduced the new material for the entire piston," Guenter Neite explained. Neite is associated with the Zentral Labor der Metallgesellschaft AG (Central Laboratory of the Metal Society) in Frankfurt, to which Kolbenschmidt AG also belongs, and he also participated in the development of the new piston. "It is much better simply to strengthen the areas where problems could arise," he continued. The rim of the depression is one such weak spot because the small transverse structural elements impede heat removal, thereby causing thermal tensions.

In normal diesel engine operation, each piston is exposed to alternate tension and pressure loads of between -25 and +25 megapascals at temperatures up to 350°C, or, in other words, to a load reversal of +/- a quarter of a ton per square centimeter about 35 times a second. With the new pistons, these values can rise to temperatures of up to 400°C and varying tension-pressure loads of between -35 and +35 megapascals.

In the area of the depression rim, the locally fiber-reinforced pistons consist of a so-called metal-matrix composite material, i.e., an aluminum-containing piston



alloy—the matrix, and ceramic aluminum oxide ( $\text{Al}_2\text{O}_3$ ) fiber admixtures. In this composite the aluminum alloy provides for sufficient heat conductivity with light weight, while the  $\text{Al}_2\text{O}_3$  fibers assure the mechanical load capacity at high temperatures.

To achieve such synergies, in which the whole is more than the simple sum of its parts, is the goal of composite materials technology. But the problems begin as early as the selection of the materials to be combined. The basic consideration in the selection is whether the materials are mechanically compatible. Should the embedded matrix material, when heated, expand much more than the fiber reinforcements, then the fibers, and with them the desired strengthening effect, would be torn apart.

On the basis of practical requirements and its light weight, aluminum soon became the focus of attention in materials research. Aluminum oxide or aluminosilicate fibers are acceptable. Aluminosilicate fibers consist half of aluminum oxide ( $\text{Al}_2\text{O}_3$ ) and half of silicate ( $\text{SiO}_2$ ), and are significantly cheaper than pure aluminum oxide. To be sure, as Guenter Neite admits, "We still have no positive results with aluminosilicates. They are out of the question for piston depression rims because the temperatures are simply too high."

On the other hand, the Toyota automobile company of Japan has already produced piston ring reinforcements out of it. Describing the future prospects in light of the Japanese developments, Neite says doggedly: "Aluminosilicates are therefore still in the running with us too."

Just as important as the mechanical compatibility is the chemical interaction. In bonding, the matrix alloy should not corrode or even destroy the fibers. Moreover, the alloy must perfuse the fiber material all over, in order that a true composite is formed. True adhesion only occurs when there is a division of mechanical forces between matrix and fibers under load, when a chemical reaction takes places during the perfusion.

"To achieve this," Gerhard Ibe of the Light Metals Research Institute of Vereinigten Aluminium Werke AG [VAW] explained, "one could, for example, enrich the interface with an admixture of magnesium to the aluminium alloy followed by an additional heat treatment, and let it react with the surface of the  $\text{Al}_2\text{O}_3$  fibers. The adhesiveness is considerably increased in this way." But, just as in medicine, it is a matter of the correct dosage. "The interface reaction," Ibe continued, "should not just run on without limitation, because the fibers would be damaged if it did."

Another possibility of controlling the interface reactions (besides the magnesium enrichment) is fiber coating—a technique that is also used in CFK [carbon fiber-reinforced plastics]. But, of course, this kind of "interface engineering" means an additional processing step.

This composite of fibers and matrix alloy is produced by die casting. In this process, the metal melt is pressed in a mould body, in which the fibers are held together by a

glue-like binding agent. Under the pressure, the binding agent permeates the melt. Vacuum pressure die casting is more costly. In this process, the mould cavity and the fiber mould are evacuated before the casting in order to remove all air and any lubricant fumes and to facilitate an air-tight and pore-free casting.

In both cases it is a matter of the fibers withstanding the casting process undamaged and relatively uniformly distributed and bound. Nonetheless, to date, it has not been possible to avoid the fact that areas did form in which there were no fibers and therefore defective. "We suspect that there are weak spots in the fiber casting mould, which tear open under certain infiltration conditions," researcher Neite of Kolbenschmidt believes.

Unlike the air pockets or pores, which can be detected by X-rays, an uneven distribution of the fibers cannot be ascertained with certainty by means of nondestructive testing. "We would have to make a statistical process check," Neite explained. To ensure uniform quality, material samples were taken out of the production line at certain intervals, cut open, and examined to determine whether the defects found in the spot check were beneath an acceptable frequency level.

Demanding requirements are put on the fiber casting moulds that Kolbenschmidt obtained from the Didier Werke AG. Normally, the fibers are just as long as a human hair is thick, namely, 50-60 micrometers, with a diameter of exactly three micrometers. During the production of the fibers, "shots," i.e., irregularly formed, sharp-edged lumps several hundred micrometers large, can get under the material and cause cracks in the composite. "Consequently," Guenter Neite emphasizes, "not a single shot should be present in the fiber casting mould." To prevent this from happening, every casting mould is analyzed by means of X-rays.

Despite the tricky production technology, other applications are in sight for the product, besides vehicle engine pistons. Thus, for example, the Aluminium Ranshofen GmbH in Austria, has developed track links with fiber-reinforced points for caterpillars and has recently begun practical testing of prototypes. Peter Degischer, the head of the research and testing facility at Aluminium Ranshofen reports: "Development has progressed nicely, but commercial production is just beginning." The breakthrough will only come when the improved performance capability is worth the higher price.

"We estimate that the new materials are twice as expensive as the conventional materials. Consequently, the track links have to last twice as long as before."

Another structural component that the materials researchers have in mind are engine connecting rods, which in combustion engines transfer the force of the pistons, and therefore the drive, to the crankshaft. The lighter they are, the less energy is lost in the self-motion of the connecting rods, and the less becomes the fuel consumption. Karl Ulrich Kainer of Clausthal Technical



University puts it this way: "Fiber-reinforced connecting rods are the wish-dream of all the composite materials researchers."

Important leaps in performance have already been achieved. Static pressure tests revealed a significant increase in buckling strength from about just a six ton load in the case of a conventional connecting rod to 15 tons for rods reinforced with aluminum oxide fibers. But there is still a problem with fatigue-resistance. In the first fiber-reinforced rods produced, fractures appeared after only about 2 million load reversals.

With such rods, the average automobile would be disabled with a fractured rod after scarcely 20 hours on the road. Nonetheless, Gerhard Ibe of VAW's Light Metals Research Institute, where the rods are being developed, remains optimistic. He estimates that it will only be another year or two before the first prototypes are produced.

Meanwhile fiber-reinforced diesel pistons have been in mass production for a year and a half. IVECO, the Italian automobile producer, is the major buyer for both Kolblenschmidt and Mahle pistons. "Were it not for the U.S. exhaust regulations, these pistons would still not be on the market," says Wolfgang Henning, Kolblenschmidt's head materials developer.

Because whoever is building trucks just for the European market would not have to use environment-friendly pistons. As usual, we Europeans have laxer exhaust regulations. Materials scientists Kainer comments: "I'm counting on our environmentalists."

#### **Lack of Energy Policy for Saxony Scored**

92WN0365C Leipzig LEIPZIGER VOLKSZEITUNG  
in German 4 Mar 92 p 5

[Article by Helga Roestl: "A Plan That Isn't"]

[Text] The energy policy of the Free State of Saxony is supposed to demonstrate a supply structure which supercedes the existing monostructure, low efficiency, and high environmental pollution. At the same time, a certain basic volume of brown coal production has to be maintained for reasons pertaining to energy and social policy. Existing district heating systems should be retained. The advantages of renewable energy sources are to be utilized more intensively, and a pluralistic structure must support the competitiveness of the energy supply.

This is the quintessence of the energy policy plan of the Free State of Saxony. However, in spite of its title, the plan bears little resemblance to one. The designation, "Basic Study for Drafting An Energy Plan," would be more appropriate.

Even if the basic analysis and the conclusions supporting the forecast have to precede the planning work, the

conclusion still remains that a lot of time has passed in Saxony without any position being staked out on energy policy.

Staking out such a position would be important for various reasons. Saxony is particularly heavily polluted as a result of the GDR's energy policy. Even today about 80 percent of primary energy is derived from brown coal (just over 70 percent in the new laender). The structure of terminal energy use has still not changed substantially. The environment is definitely noticeably less polluted, but that is attributable to shutdowns, and not measures to improve the environment.

These and other premises show that a great deal has to change, both in the producer and in the consumer structure—all of this while total energy consumption is being reduced. If the structural changes are to take place along "orderly lines," a plan is urgently needed.

For example, the future of brown coal in western Saxony depends on the decision for or against the Lippendorf power plant site, which in turn would have serious social political consequences for the region. The situation is similar with district heating. The level of approximately 50 petajoules [units of energy] per year is to be maintained. But that is possible only if supply becomes competitive—at the present time, district heating is more expensive than in the old laender. If decisions continue to take so long, natural gas, which is environmentally sound, can end up at a disadvantage compared with heating oil. Particularly if the switch from city gas to natural gas does not move ahead in a timely manner. A plan is needed for the how, where, and when. The plan for the Free State—it codetermines regional considerations—will not be ready before the summer. Let us wait and see what has grown "wild" by then.

#### **U.S. Environment Policy Seen as Based on 'Opportunism'**

AU3103120392 Duesseldorf HANDELSBLATT  
in German 31 Mar 92 p 2

[Dietrich Zwaetz editorial: "At the Children's Expense"]

[Text] It is by no means just election campaign tactics for George Bush to threaten that he would boycott the environmental summit in Rio de Janeiro organized by the United Nations if resolutions were to be adopted there that the United States did not like. Regrettably, environmental policy does not really interest Washington; it is based on economic policy opportunism. It is thus based on a concept that is as short-term and as short-sighted as the profit performance of U.S. business managers. Otherwise, the environment policy barter deals suggested by Bush to the car producers in his country would not be possible. If the car producers buy old cars that are fit for the scrap heap from car drivers, the Administration relaxes the tough regulations on fuel efficiency.

The United States has set its own environmental standards. This is one of the simplistic slogans with which the President wants to win the elections in November. The arguments produced by his domestic policy adviser and former agriculture minister, Clayton Yeutter, who was reactivated for the White House in the election year, are revealing. "If we see that a productive international meeting is unlikely, George Bush will by no means take part in it," said Yeutter to explain the affront to the UN environmental policy.

#### U.S. Continues To Reject National Obligations

What is productive is, however, determined by Washington. The United States above all intends to prevent an international agreement on the reduction of carbon dioxide (CO<sub>2</sub>) emissions by the year 2000. Bush will not sign any agreement that stipulates the national reduction of CO<sub>2</sub> emissions, which cause the greenhouse effect, to the level of 1990 because, he argues, this would jeopardize U.S. jobs and U.S. business and industry. The lousy reason given by Bush: There is not yet sufficient scientific proof that there is a connection between carbon dioxide emissions and the greenhouse effect.

#### One-Sided Arguments in Washington

Bush used the same arguments two years ago to cause the failure of the "conference on the scientific and economic research of environmental changes" that he had personally called. At that time, Federal Environment Minister Klaus Toepfer said politely that "only a few specific things have been achieved regarding the reduction of CO<sub>2</sub> emissions in industrial and developing countries." In reality, Toepfer was deeply disappointed by the Washington show.

That Washington is again ignoring European apprehensions about the further warming of the atmosphere does not bother the White House chief. The U.S. Administration will assess measures against the greenhouse effect only by whether they are in the interest of business and industry. It will only accept such measures, as Yeutter put it, if they are "in the country's best interest"—not, we might add, in other nations' interest or in the interest of the future of this planet. Bush unmasks the U.S. environmental policy as mere lip service. That is precisely what Klaus Toepfer thought two years ago.

We cannot, however, hope that George Bush, who is now in the middle of the election campaign, will see the fact that environmental policy that must be financed today only pays in the next generations. In this respect, the President has been quick to learn from the business managers in his country. The U.S. President has just a limited interest in the world in which our children will live.

#### Research Project Confirms Earlier Ozone Level Reports

*LD0704154292 Hamburg DPA in German  
1122 GMT 7 Apr 92*

[Excerpts] Bonn (DPA)—The first large-scale European ozone research project (EASOE) has been completed, the Research Ministry said today. The provisional results confirm initial reports in February that the ozone levels over large parts of the northern hemisphere were unusually low this winter. However, there was no hole in the ozone, as there was in the Antarctic. [passage omitted]

The causes of the ozone depletion were not completely explained. Factors include the various weather systems in the troposphere, which reaches up to an altitude of 10 kilometers. This winter there were very marked high pressure zones over large parts of Europe. [passage omitted]

Scientists fear that ozone depletion will in all probability be further accelerated by the effects of chemicals over the next few years. Thus there is no reason to relax efforts to reduce the use of chlorofluorocarbons [CFCs]. The first reports of the survey results prompted the FRG government and its EC partners to urge earlier scrapping of CFCs.

#### Topfer Proposes Panel on CIS, Eastern Europe Nuclear Safety

*OW1004124692 Tokyo KYODO in English 1128 GMT  
10 Apr 92*

[Text] Tokyo, April 10 (KYODO)—Visiting German Environmental Minister Klaus Topfer on Friday proposed a working group among major economic powers to discuss nuclear plant safety in the former Soviet Union and Eastern Europe. In talks with International Trade and Industry Minister Kozo Watanabe, Topfer proposed that nuclear experts from the Group of Seven (G-7) industrial nations meet several times before this summer's G-7 summit meeting to hammer out a consensus on the matter.

Watanabe agreed with Topfer on the "urgency" of working out measures concerning nuclear safety in the Commonwealth of Independent States (CIS) and Eastern Europe and that the G-7 summit should take up the matter, a MITI [Ministry of International Trade and Industry] official said. However, he failed to make his stance clear about the proposed G-7 panel, the official said.

The two ministers also agreed on the need for greater international cooperation in making nuclear power plants more acceptable to the general public.

"The atmosphere surrounding nuclear power generation is very tough, despite its merits as a stable source of energy," Watanabe was quoted as saying. "We need to join hands (to boost public confidence in it)."

### Rio Summit Seen as Long-Term Opportunity

92WN0498B Duesseldorf *HANDELSBLATT* in German  
30 Apr 91 p 12

[Article by Ernst Ulrich von Weizsaecker, president of Wuppertal Institute for Climate, Environment, and Energy: "Ecological Position Is a Long-Term Competitive Opportunity: Environmental Summit (II)/Great Challenges for the Meeting in Rio at the Beginning of June"]

[Text] 29 April—In advance of the "earth summit" in Rio de Janeiro, environmental protection really ought to be in full swing worldwide. The opposite is the case. Environmental weariness is spreading. Are there any attempts at all to provide solutions?

The threshold of pain has been crossed, economic circles repeatedly say. The industrial location Germany is in danger. And the high environmental costs are a favorite subject of German enterprises in their scolding of the state. Meanwhile, industry is accusing the federal environmental minister of transgressing against the location Germany every time he intervenes. He rightfully defends himself: Everything considered, environmental protection has a positive effect on our national economy.

But that does not mean that one could not do some things better in the triangle of industrial location, state intervention, and environmental quality. For the environment looks even much worse than the industrial site. But we clearly need more rather than less environmental protection if we are thinking about protecting the climate, conserving the biological diversity, and the air, water, and soil. The ecological threshold of pain has already been crossed, and that is the deeper reason for the "earth summit" in Rio.

Our environmental protection is based on the old business law that we have interlaced with an almost impenetrable web of limiting values, conditions, prohibitions, duties to report, and controls. The result is lengthy approval proceedings. They are also the rational core of the complaints of economic leaders about the threshold of pain in environmental protection.

#### Economic Incentives for an Optimization

The proceedings can hardly be accelerated with more approving officials. They would just have to investigate more thoroughly to compensate for the lack of execution that is being diagnosed everywhere.

What then? The most important answer is "market-economy instruments" of environmental protection. They "buy" twice as much environmental protection per German mark [DM] expended as do the rules and regulations, stated Prof. Holger Bonus many years ago. But another step beyond that is needed if we want to optimize the triangle of environment, state, and industry.

It is a matter of shifting the view from the end of the processes to the earlier stages. For, as long as one only thinks about the control of pollutants or the disposal of wastes, environmental protection will inevitably remain an unproductive cost factor. If, on the other hand, we make the input factors, especially energy use, the subject of environmental protection, then immediately new worlds will open up economically.

If we could be successful in achieving the same prosperity with one-half or one-third of the energy input, which would mean fantastic relief for the environment, then this ought to appear as a benefit to the national economy rather than as costs. In 150 years of technical progress, the productivity of labor, or prosperity per hour of labor, may have increased by a factor of 20. The productivity of energy has lagged behind shamefully. This is seen in the fact that energy consumption has always increased proportionally to the national product, with the exception of the short period of perhaps 15 years after 1973.

In scientific and technical terms, however, there is no reason why the productivity of energy could not also be increased by a factor of five, 10, or even 20. It is simply that at the present time it does not pay a business to invest a lot of money for such a goal. The rationalization of labor pays off incomparably better. We now have assembled the elements that we need to optimize the triangle and also for an environmental strategy that can be harmonized. If we want to achieve the national economic benefit of a systematic improvement of the energy productivity and put our trust in the market rather than in some bureaucrats to manage the details of technical progress, then we must give the appropriate signals to the market.

We must raise the prices for energy and raw materials through the state. To make energy more costly for the good of the national economy sounds unusual, to put it mildly. But it is rational. And there is empirical proof.

It will be a matter of how one raises the energy prices. The most sensible approach would be a strictly revenue-neutral ecological tax reform that would take place in small steps foreseeable for decades. A planned increase in cost of 5 percent annually (adjusted for inflation) and a tax decrease somewhere else (e.g. the value-added tax, to avoid distribution and inflation effects) should be acceptable for the economy as well as for social policy. One must merely see to it that the installations can still be depreciated without losses. And it would be ecologically and economically desirable for as many countries as possible to participate.

#### Deliberately Higher Prices for Scarce Resources

Precisely this is what the EC Commission would also like to achieve with its proposal for a gradually increasing energy tax. About the only thing that one could object to with respect to this proposal is that with \$3 per barrel of oil (or energy equivalent) the start is still somewhat abrupt and, on the other hand, that the time horizon

through the year 2000 is still not long enough. Power really ought to be taxed for at least another 20 years beyond the year 2000.

Industry and state should (as in the case of the Japanese) look ahead together at least 30 years in advance so that the investments in base innovations, infrastructure, and other slow processes will pay off. But it is totally irrational for industry, which profits altogether from the bold modernization signal of the EC, to leave the word in the Brussels arena to the few branches that are still dependent upon cheap energy and have no desire to convert.

Long-term innovation policy that takes into account the world markets of tomorrow (rather than of yesterday) in conjunction with an exemplary policy to protect the climate and environment—hence worthy of imitation by poorer countries as well—would also be the approach for a reduction of the bureaucratic regulations on the environment. It would be the strategy to make the industrial sites of Germany attractive once again and to protect the environment at the same time. And then the continual talk about the threshold of pain can finally end. And the prospects for the success of the “earth summit” in Rio increase.

#### **Rio Summit Seen as Forum for OPEC Concerns**

92WN0498A Duesseldorf *HANDELSBLATT* in German  
30 Apr 92 p 12

[Article by Heinz Juergen Schuermann, 29 April 1992: “Ecologically and Economically Efficient Forms of Adaptation Must be Examined Jointly: Environmental Summit (I)/Oil Exporters Fear New Handicaps for Their Development Through CO<sub>2</sub> Taxes”]

[Text] The developing countries that export oil are going to the environmental summit in Rio de Janeiro with very mixed feelings. At the end of last week, at a conference in Vienna, there were big reservations with regard to new redistributions to the detriment of petroleum. Not only the OPEC countries but also other oil exporters fear setbacks in their economic development if the planned environmental taxes should become a reality.

The oil-producing states have had to go through painful learning processes in the past. The price dictates of OPEC in the 1970's meant substantial sales losses in the first half of the last decade. Since then, the lost market shares have largely been compensated. The sales forecasts are now signaling very favorable opportunities for the 1990's.

#### **Investment Decisions Are No Longer Calculable**

Now, however, there is a threat of ecologically justified reductions to the detriment of this energy source, still the most important in the world. Saudi Arabia's Minister of Petroleum and Mineral Resources Hisham Nazer has sharply criticized the plans of the EC Commission to tax energy and carbon dioxide (CO<sub>2</sub>) repeatedly in past

months. In Riyadh, they have spoken more or less openly of a new round of confrontation.

The countries with large oil reserves are currently planning investments to expand their production capacities. In accordance with today's sales forecasts, these decisions to expand also appear necessary to prevent supply shortages toward the end of the century. The investments in this decade are estimated at \$250 billion for the “exploration and production” area. The OPEC secretariat has doubled these investments to \$120 billion for its members alone since the Gulf war.

Taking into account the other stages in the oil industry, worldwide oil investments in the 1990's are projected to be more than \$1 trillion. Incalculable state skimming in the oil-producing as well as the oil-consuming countries would endanger the necessary expansion, according to branch sources. If one considers not only the necessary profits for risky investments but also the energy tax of \$10 a barrel planned by the EC Commission, then real oil prices would have to double in the course of the 1990's. But it remains to be seen whether such an upward trend can be realized.

According to OPEC calculations, annual petrodollars could decline by \$14 billion if a coordinated CO<sub>2</sub> tax in the sense of the EC were to go into effect in the most important consumer countries. This was the background of the Vienna meeting on 23 April of the 13 oil ministers of the Organization of the Petroleum Exporting Countries (OPEC) and 12 oil representatives of the Independent Petroleum Exporting Countries (IPEC). The goal of this consultation was the “exchange of opinions” with a view to the environmental summit at the beginning of June.

The much-quoted concern about the greenhouse effect through a global increase in CO<sub>2</sub> emissions is frequently based on political rather than well-founded scientific considerations, thinks Nigeria's Minister of Petroleum Resources Jibril Aminu, acting president of OPEC. The economy is flourishing in the richer nations, whereas the poorer countries are falling farther and farther behind, not least because of global environmental strategies. Accordingly, the oil-exporting developing countries must defend themselves against this new form of exploitation. OPEC and IPEC must pursue a uniform strategy in Rio, summarized Aminu. It is unacceptable for petroleum to be the main target of environmental legislation.

A resolution that expressly warns against taking environmental and energy-policy measures that could be harmful to the world economy was passed by 23 oil-producing states among the 25 participating countries, including all 13 members of OPEC. Only Norway and Mexico failed to sign the Vienna communique. In the resolution, however, 23 states are saying that in Rio a convention on climatic changes ought to be passed only if it is “global, flexible, and balanced.” In no case should “fiscal or other measures” be considered that could have



a negative influence on the growth of the world economy and especially on economic development in the Third World.

At the meeting of the oil ministers in Vienna, OPEC General Secretary Subruto expressly warned against concentrating the environmental priorities exclusively on hydrocarbons and the emission of CO<sub>2</sub>. In view of the present state of knowledge, there should be no overly precise goals with a time limit in regard to a limitation of emissions of pollutants. The ecological benefits and the resulting costs of adaptation must progressively be weighed against one another.

In the worldwide discussion on policy for energy raw materials and the environment, so far, little attention has been paid to the aspect of economic efficiency, whose observance ultimately benefits everyone because in this way one can minimize the decline in welfare caused by long-term shortages of energy and environmental restrictions. Throughout the world, the state skimming in the case of petroleum has always been planned only from the point of view of fiscal greed. Nor is any end to this skimming policy yet in sight for the future. In this respect, the concern of the oil-exporting states about a renewed discrimination seems quite justified.

The aspect of broad cooperation that was raised by consumers as well as exporters during the Gulf crisis must now be made specific with balanced burden-sharing. Ecologically and economically efficient distributions of investments must be effected worldwide. But excessive national pretensions to sovereignty and shares still stand in the way of an optimum division of labor. There have been several shifts of power between buyers and sellers of oil in recent decades.

In the end, however, all of the actors have been able to achieve only relatively slight advantages in the course of these processes of confrontation. The mutual economic and ecological advantages of a multilateral cooperation could be documented in the near term precisely for oil, the energy source most heavily traded internationally.

#### The Confrontation Is Over After the Gulf Crisis

The member countries of the International Energy Agency—coordinating center of the Western industrial countries in Paris—and above all the OPEC states have begun broad consultations in recent months that must not be endangered through rash decisions in Rio.

According to the studies initiated by OPEC, the connections between climate change, energy-related CO<sub>2</sub> emissions, and economic growth have so far been established much too superficially. A "fair and balanced approach" is not yet in sight for the environmental summit in Rio, states the Vienna organization. The CO<sub>2</sub> taxes of the Western industrial countries would initially discriminate primarily against the oil-exporting developing countries. There is already a fear of a decline of national product by more than one-fourth over the next two decades.

The dependence of the OPEC countries on oil remains severe. In 1991, petrodollars accounted for 75 percent of total export receipts: \$139 billion of the total of \$185 billion. The great range in oil revenue from \$280 billion (1980) to \$75 billion (1986) in the past decade also means enormous macroeconomic imbalances. Hence the consumer countries must also take these effects into account in their energy and environmental programs.

## ITALY

### Government Environmental Policy Criticized

92WN0367A Milan EUROPEO in Italian 11-13 Mar 92  
pp 62-67

[Article by Fabrizio Filosa: "Nature Creates; Italy Devastates"]

[Text] **Scene One:** Cengio, Val Bormida. Date: Sunday 23 February. Scene: Fists fly. Insults ring. It is the 41st public demonstration against ACNA, the chemical company that for decades has been one of Italy's sources of pollution. This time, the citizens are protesting the construction of an incinerator that is supposed to devour the stack of toxic waste accumulated over decades of activity. Notwithstanding the tens of millions in public funds invested by the state to clean up ACNA and avoid shutting it down as environmental groups and the valley's inhabitants have been demanding for some time, the enterprise (which for years belonged to Montedison and now to Erichem) continues to produce a noxious river of pollutants.

**Scene Two:** Wielding his pickax here and there, President of the Republic Francesco Cossiga did not forget to assess the environmental law a ringing blow. On Wednesday, 19 February, the president sent back to the Senate Committee on Industry the law banning the use of asbestos with effect from 1 January 1993. The reason given: Lack of funds. "A very serious matter," commented the politicians and environmentalists, considering that asbestos is a very powerful carcinogen. Meanwhile, the persons concerned are asked to please hold their breath so as not to inhale asbestos fibers.

For years, Italy has been being subjected to environmental disasters such as Seveso, Valtellina, red muds, atrazine in drinking water, vehicular traffic jams, etc. For years, laws have been passed, remedial actions proposed, catastrophes predicted. And for five years, the lastborn among the ministries, that of Environment, has been trying to squeeze the needed spending for Italy's environmental protection out of its meager budget.

How do matters stand now? The two scenes we have just described seem to indicate that nothing good has happened as yet.

"Unfortunately politicians and administrators continue considering the environment a secondary factor that can



be sidestepped in their decisions," says Gaetano Benedetto of WWF [World Wildlife Fund]. "Confronted with even very serious situations, the main concern is always and solely for their social, economic, political, and job-related aspects. ACNA is polluting? Never mind. Jobs are at stake, so it must be kept open. Aqueducts are being contaminated by atrazine? No problem. Simply increase the maximum allowable concentration of atrazine, because farmers have to till the soil. Highways are devastating the land? Never mind. More of them must be built, because builders must prosper."

Anna Donati, Greens member of the Chamber of Deputies, lets her bitter disappointment be known. "The only appreciable action taken by this government has been the enactment of the National Parks Law. It will bring the percentage of protected territory up to 10 percent of the total, a European level, at last." But opposed to this is a long list of not very comforting data.

At the administrative level, the 1992 budget law has cut back the Ministry of Environment's already meager appropriations by almost half. Meanwhile the number of unenforced environmental laws is growing. Moreover human aggression against nature is becoming more intensive: Kilometers of streets, highways, by-pass roads, access roads, often even useless ones, are on the increase. Italy is Europe's primary consumer of concrete (800 kilos a year per citizen). Day by day, on the so-called natural catastrophes front, the territory's hydrogeologic imbalance is becoming worse. Every year 8,000 fires break out over an area equal to approximately 110,000 hectares. In addition, the director of the National Institute of Geophysics, Enzo Boschi, points out, scientific research on the environment is being neglected and universities are not preparing specialists capable of protecting the environment. As if this were not enough, even people's behavior is contributing to a worsening of the situation: For example, automobile traffic has polluted the air to the point where emergency measures are becoming the norm. These include alternate-day circulation in big cities, depending on license plate number [even-numbered license plates on even-numbered days, and vice versa].

The target of all the accusations, complaints, demands, and petitions is the minister of environment, Socialist Giorgio Ruffolo, who calmly answers the chorus of complaints. "It is evident that Italian environmental policy has many shadows, but it also has many lights. We have to consider that we actually started from scratch in 1986, when the Ministry was created. Since 1987, when I took over, there has barely been time to lay the foundations of a substantive policy. We had very poor environmental legislation. It lagged far behind the European legislation. But in the years since then, a considerable number of laws have been passed. For example, we have adopted 90 out of 120 Community directives and we now occupy third place among European countries. Some major framework laws have been enacted: like the one on waste, and the one regulating the problem of soil and water management by dividing Italy into basin

authorities, on the model of other countries. Then there is the body of atmospheric pollution laws, for instance Law 203. Also worthy of mention is Law 175, better known as the Seveso Law, on industrial hazards.

"Another forward step has been taken by organizing a three-year plan of subsidies and projects to be implemented in agreement with the regions, placing upon the regions the major responsibility for implementing environmental policy. With the first 1989-91 plan we disbursed to the regional treasuries more than 2,000 billion lire. And since the Ministry is not a streetsweeper that cleans up messes left by others, we decided to involve the production sector, and have drawn up agreements with large public and private enterprises to reduce their polluting emissions. For example, ENEL [National Electric Power Board] will have to spend 4,000 billion lire to adapt its power plants to the new norms."

These are the lights of the Ruffolo administration. But there are many who point out that in practice there has been little action, that many laws have remained on paper, and that funds were either not spent or were badly invested.

"To those who would remonstrate," says Ruffolo, "let me point out that this is a small Ministry of only 400 persons, while EPA, the United States' Environmental Protection Agency, has a staff of more than 20,000 employees.

"Furthermore, I have not always had the necessary cooperation on the part of my colleagues in the Council of Ministers. Whenever new agencies are created, the powers of another are diminished. The Ministry of Public Health and that of Industry feel particularly threatened by the growth of Environment. And, I must say, levels of environmental awareness within the government are so diverse that not always has there been agreement on environmental policy. Very simply put, I believe that the problem is underestimated and that this is why it took all of two and one-half years to pass Law 203 on atmospheric pollution.

"The industrial groups as well, for that matter, dig in their heels and are not easily persuaded to adopt clean productive processes.

"Then there is the major stumbling block of the Regions," Giorgio Ruffolo points out. "Because of administrative procedural problems they are unable to spend the funds they receive from the central government to perform the indispensable construction works. An example is the story of the 5-year plan for reclamation of the Lombard rivers mainly responsible for pollution of the Po, namely, the Lambro, Seveso, and Olona. The plan was enacted in 1988 and was to represent a modern way of dealing with pollution problems. A company with a combined public and private capital structure was formed for this purpose. As of a year away from expiry of the plan, virtually nothing has been accomplished, although the Ministry has transferred almost 700 billion lire to it."

The slowness with which the local agencies respond is reflected in the figures. With the funds appropriated to them by the central government for environmental projects between 1982 and 1990, Lombardy completed 48.7 percent of the work provided for by these funds; Piedmont performed only 27 percent; and the province of Bolzano even less: A meager 14 percent. This is another reason why the funds made available to the Ministry of Environment under the 1992 budget were slashed: 505 billion for 1992 versus 780 billion the previous year, and 1,360 billion for 1990. This is a dangerous inversion of trend, given that between 1986 and 1989 the total environmental funding placed at the disposal of all central government administrations rose from 4,200 billion lire to 7,821 billion lire. But as is well known, money is not the whole story.

"I do not string along with those who bemoan the scarcity of the funding," says Anna Donati. "What matters is the quality of the spending, and I see that, in Italy, funding is truly being ill spent. Let us consider the way in which pollution produced by industries is being addressed. With the businessmen, our government has consistently followed a dual-track policy: With one hand, it finances industries in order to sustain employment and foster growth, without demanding compliance with the environmental laws, thus enabling those industries to perpetuate their dirty smokestack systems that have devastated entire zones. With the other hand, the state subsidizes those same industries to install purifying systems. In a way, this policy actually finances pollution."

"With a vast waste of money and without obtaining results," adds Floriano Villa, president of the National Association of Geologists. "We continue attacking the effects, with purifiers, for example, and do nothing to remove the root causes."

Environmental associations have long sought legislation to limit eligibility for financial and tax incentives to those firms that can show they are complying with the environmental protection laws.

Failure to comply with these laws produces those macroscopic effects that are observable in high-risk areas, areas within the national territory where the pollution is so high and widespread as to endanger the health of the inhabitants. Italy's high-risk areas are many, and Val Bormida is merely the most widely known example. What does the state do in high-risk areas? Judge Amedeo Postiglione of the Court of Cassation, an expert in environmental law, answers this question. Among other things, Judge Postiglione chairs a committee of jurists who are working intensely on fostering the instituting of an international court of the environment. "In high-risk areas, the concentration of poisons is so high that, at a certain point, the government is compelled to intervene and pay from its own pocket, meaning ours, to clean up the environment, says Postiglione. There is no way, in Italy, to compel the responsible industries to pay. In

Italy, the basic principle that 'the polluter pays,' a rule that is also embedded in the Single European Act, is never enforced."

A quick glance at the record suffices to discover that the famous presidential decree DPR 175/88 on hazardous industries is unenforced. In three years 211 violations were reported relative to 707 hazardous installations. Only 21 preliminary investigations were opened. Not one was pursued to a conclusion.

"Examples can be cited by the dozens of laws that are unenforced or unenforceable," Postiglione charges. "Law 203/88 on atmospheric pollution makes it obligatory to use the best antipollution technology available, 'provided the cost is not excessive.' The point is that no one bothers to define, to specify, at what point a cost is to be considered excessive. And so, for all practical purposes, the law is a dead letter."

Minister Ruffolo, however, is convinced that, all things considered, our legislation is good. And he reiterates: "What I need is more money and more room for maneuver. For, example, the time has come to institute environmental taxes and tariffs. All countries are moving in this direction. In fact, Italy has undertaken to contribute to the reduction of the greenhouse effect, to stabilize its emissions of carbonic anhydride by the year 2000 at the 1990 level. It will be difficult to attain this goal without instituting a tax on carbonous emissions, a tax, it is hoped, that would encourage energy savings. Also looming in the Italian consumer's future is an increase in the tariffed rate on water, a scarce and priceless resource that Italians waste," the minister says, "because it is charged for below cost. It is a system that could help balance our budget," says Ruffolo. "The government's economic commitment to the environment is still meager, below that for street and highway infrastructures." And that is obvious.

Indeed, at this very time, rivers of asphalt and cement are being poured over the soil in some regions of Italy. They are what is needed to immortalize the "Colombiadi," the celebrations relative to the 500th anniversary of the discovery of America. It is a classic, fit for classroom study. The big sponsor of the "Colombiadi" is the Minister of Public Works Giovanni Prandini, Christian Democrat from Brescia, recent winner of the WWF's Attila Award for having fostered the excessive development of the highway network. The "Colombiadi" are a golden opportunity to finance projects that have nothing whatever to do with the Genoa Expo, on a supplementary-appropriations and virtually uncontrollable basis. The originally budgeted figure of 3,700 billion lire has now risen to 5,600 billion (according to an ANAS [National Highway Agency] document dated 30 April 1991). To this must be added the 800 billion lire for the city of Genoa. The total comes to 13 times the Environmental Ministry's budget for 1992.

The stroke of genius spawned by the "Colombiadi" was the invention of the comprehensive "traffic basin" concept, under which street and highway construction work not only in Liguria, but also in Piedmont, Lombardy, Tuscany, and Emilia can all be considered as necessitated by the celebrations. Anna Donati and the Chamber of Deputies Green Group have compiled an ample documentation on the "Colombiadi" affair.

"Positing lack of time, emergency procedures were invoked, thus eliminating public competitive bidding, and all the contracts were awarded, by way of private negotiations, to some 10-odd big firms: Itinera with the firms owned or controlled by the same entrepreneur Gavio, namely, Tecnosviluppo-Damonte, the Villanova Consortium, and Bertino, Freydoz, and Follioley, the latter three being currently under investigation in connection with the construction work done on the Bianco Superhighway in Valle d'Aosta; the IRI's [Industry Reconstruction Institute's] Italstrade in consortium with Edistra and Mantelli; Grassetto, Incisa and the Lito Consortium; Lodigiani Astaldi, Pizzarotti (frequently in consortium with Gima); and Coopsette, Cooperative Argenta, and Copl, which are members of the League of Cooperatives.

"All environmental impact evaluations were then ignored," Anna Donati continues, "and, to top things off, the final dates for the completed work were extended to 30 August, by which time the celebrations will have ended. To better understand the elimination of the bidding, we have filed a deposition with the Courts, and the Court in Florence has already opened an inquiry. The Court of Accounts is also inquiring into the 'Colombiadi.'"

The Greens and environmentalists reproach Giorgio Ruffolo with not having halted the pouring of concrete. "The minister took part in the Conference of the Colombiadi Services. This was a meeting of persons who were called upon to pass judgment on the plans for the construction work," says Gaetano Benedetto. "Since unanimity was a requirement for approval of the projects, Ruffolo had an effective power of veto, which he did not use. He limited his action to requesting a few modifications of the plans. Too little."

One of the enemies targeted by the environmentalist associations in their war to protect the environment is the public bidding system. The WWF has recently launched a public-awareness campaign premised on the slogan "The environment is our concern." "The issue is simple," says Gaetano Benedetto. "According to data compiled by CENSIS [National Socioeconomic Studies Center], the public-sector contracting market in Italy is worth around 24 trillion lire a year. And approximately 20 percent of the profits of organized crime are derived precisely from public-sector contracts. It is self-evident that a firm tied to organized crime does not use clean methods of ensuring that it gets its share of public-sector contracts, and stops at no methods of pressuring the local administrations."

Enforcing existing environmental laws, good or bad though they may be, might well be one way of breaking up this network. The Galasso law on environmental constraints, for example, has been in effect since 1985. If it were strictly enforced, many public and private works contracts would be barred, and with them the wheeling and dealing. It would suffice in itself as a means of instilling a new morality in the administering of government business.

### Report Issued on State of Environment

92WN0415A Rome LA REPUBBLICA  
in Italian 27 Mar 92 p 9

[Article by Antonio Cianciullo: "A Cement Crust From the Alps to Sicily"]

[Text] This is how Italy is continuing to waste its environment. Speculation on building, but also cities overcome by traffic and trash, and abandoned countryside: the report on the former Belpaese (beautiful country).

The health of the wolf is improving, while that of the sea turtle is worsening. Parks are increasing, but almost 6 percent of Italian territory is a red zone, at high environmental risk. Ninety-nine percent of the municipalities have running water, but only two out of three have a regular flow in all seasons. The air in the cities has had some relief from the sulfur that used to come from the old heating oil, but the quantity of nitrogen oxides and suspended particles produced by automobiles is in continual increase. We have built more than 5,000 water purification plants, but the production of pesticides that tend to pollute the waters is increasing.

The second report on the state of the environment, coordinated by director general of Environment Costanza Pera, presents us with an honest picture, free from false certainties, one difficult to evaluate. What is certain is that the circle of concerns and interests that surrounds the environmental question is widening, but the results continue to be precarious, full of contradictions and lacunas. The overall impression that one gets by adding up all the lights and shadows is one of a wounded country which is making efforts to protect its natural treasures, but which is losing many of them along the way and ending up by abandoning considerable portions of its territory to degradation.

This is just an impression, because, as Minister of the Environment Giorgio Ruffolo explained, this report "is like one of the ancient navigation map books, which gradually made the description of unknown regions and of mysterious coasts emerge from the unknown. Like the ancient navigators, we are discovering lands and seas, a little more spoiled than they were then to tell the truth, in a situation where there is a lack of information."

From the point of view of the quantity of information available, one may in any event be optimistic: Making a comparison with the 1989 report one sees that the gray zones of unknown areas are reduced. The regions have

begun to work to make the analysis methodologies uniform, with the result that data can now be better compared. The map is beginning to get clearer, permitting green valleys and deserts to emerge. There follows a brief panorama.

The first datum is one that completes the information furnished two days ago by ISTAT [Central Statistics Institute] on an Italy that holds the record for empty houses. The cause of this anomaly is explained by the number of building permits issued between 1981 and 1990. In one decade the equivalent of a one-story building 1,000 kilometers long and one kilometer wide was built: a sort of Hadrian's Wall, a Great Wall of China, that covered the whole peninsula.

### Record Density

The building boom was just one of the elements that comprise the growing pressure on the territory. Even though the birth rate is declining, Italy remains one of the most densely populated countries. Its 191 inhabitants per square kilometer given by the statistics are an average obtained by adding together uninhabited mountain zones and regions where 2,000 persons per square kilometer live. It is precisely among the latter superpopulated regions sprinkled with polluting industries that the zones declared to be at high environmental risk are to be found: There are five of them for a total of 17,000 square kilometers (5.7 percent of the national territory).

Among the other factors that have disturbed the environmental equilibrium of the country, there is a senseless mining activity. In 1990 there were 6,000 companies active in this field, but the actual number of mine sites is much higher. To have a point of reference, one may consider that last year the Carabinieri of NOE, the ecological operations unit, inspected 315 mine sites in Campania; 264 were not authorized.

Overall, therefore, the extraordinary Italian economic growth, greater than the European average, instead of furnishing the instruments for ecological restoration, has transformed itself into a drag on the environment. Trash has increased (in all, 97 million tonnes per year) which contributed to 2,000 illegal dumps and 245 irregular dumps. Of the 3,250 kilometers of beach, 32 percent is shrinking and 10 percent of the stable ones are not receding only because of defensive measures. The use of anticryptogams, after a year or so of diminution, grew beginning in 1985, reaching 100 million tonnes per year, while for insecticides, an increase of 11 percent was recorded in the period 1987-89, as compared with the 1981-82 period, and for weed killers an average annual increase of 2.3 percent. Government spending on the environment remains lower than the European average: 0.8 in 1989 as compared with 1.4 for the Community and 2.5 for the countries most committed in the ecological field. This scarce commitment is one of the causes of the shortage of public transport that puts Italy at the tail end of the EEC: We have a rail network on which

one-half of the goods transported in France and one-quarter of those transported in Germany is carried; a high concentration of automobiles per kilometer of road; and a high number of accidents (5.5 for every 10 kilometers as compared with a Community average of 3.3).

The imbalance is in danger of lasting a long while: The general transportation plan forecasts that demand for transportation in the year 2000 will be 45 percent higher than that of 1985, and—the report reads—"if it is concentrated, as has occurred thus far, on highway transportation, the consequences will be dramatic both for the environment and for its repercussion on relations with the other countries," which are beginning to transfer to rail transportation a significant percentage of freight traffic. A policy that goes against the tide relative to Europe would seriously penalize our commercial capabilities.

### Energy Efficiency

This worrisome data is in part balanced by other factors. In the energy field, although both dependence on foreign sources (82 percent) and oil (57 percent) remain high, in 1990 the increase in overall demand for energy was 0.8 percent, as compared with growth of 2.1 in gross domestic product. Overall, Italy remains one of the countries with the highest energy efficiency.

The law on parks, approved after a very lengthy gestation, gives new life to protection by bringing it closer to the goal of 10 percent of the territory protected. Presently—according to the ministry's estimates, which take into consideration parks already configured but which have not yet been activated—we have reached 8.1 percent, almost double the area defended in 1988. The state is protecting 11 nature parks (including the six "on course"), 46 wetlands, five marine reservations; the regions have responsibility for another 81 parks, 145 nature reservations, and 170 protected areas. To these areas the 42 oases of the WWF [World Wildlife Fund] and the 15 of the LIPU [Italian League for Bird Protection] must be added.

The establishment of new parks offers a hope of saving species that are in danger of extinction. From the point of view of the vegetation, the 42 species that were considered at risk of extinction in 1972 have become 463 (out of a total of 5,800). Among the trees that are disappearing is the podded pine (surviving only in the Pollino area and in Greece) and the Nebrodi fir tree.

With regard to animals, the greatest concerns are for the cetacean species, the monk seal, and sea turtles. On land, on the other hand, things are going much better: In the woods the lynx and the jackal have reappeared, while the roe deer, the deer, the chamois, and the wild goat have multiplied. "From this point of view the signs are encouraging, although these animals have people who are thinking attentively about them: In Italy there are 1,481,000 hunters," commented Costanza Pera in mentioning the degree of hunting pressure in Italy. The



recent sighting of a monk seal in Sardinia shows, however, that protection measures have some hope of success even in rather vulnerable situations where the surviving individuals are few.

## SWEDEN

### **Environmental Cooperation Accord With Baltics Signed**

*LD0404080492 Stockholm Sveriges Radio Network  
in Swedish 1600 GMT 30 Mar 92*

[Excerpts] A Swedish-Baltic agreement on environmental cooperation was signed today. Sweden will help with experts and research on waste and poison emissions. What worries the Baltic states most is water pollution.

In Estonia the pollution from the breaking of oil shale and the poisoning of ground water from the military's leaks of aviation fuel are the worries. Estonian Environment Minister Tonis Kaasik also says Estonia is worried about the military nuclear reactors in Paldiski and a

chemical factory in Sillamae which has dealt with uranium. [passage omitted] The Sillamae factory was closed two years ago but radioactive waste was left on the site. This waste is now leaking radioactive substances into the Gulf of Finland and the Baltic Sea. We do not know how to take care of this, Tonis Kaasik says.

Swedish Environment Minister Olof Johansson wants to prioritize the improvement of the security of the Ingalina nuclear power plant in Lithuania and the problems of radioactive waste leaking into the Gulf of Finland.

[Begin Johansson recording] These are the most important things we must deal with immediately, as soon as we have a chance. I believe that Sweden, Germany, and Finland should take the lead. These are such big issues that it means we must mobilize the Group of 24 lead by the EC so that there are more countries taking part in this work. We are the nearest and so have the most reason to take the initiative. [end recording]

A pure self-preservation instinct will cause the countries around the Baltic Sea to provide the money to deal with these environmental risks. [passage omitted]



NTIS  
ATTN PROCESS 103

2

5285 PORT ROYAL RD  
SPRINGFIELD VA

22161

This is a U.S. Government publication. Its contents in no way represent the policies, views, or attitudes of the U.S. Government. Users of this publication may cite FBIS or JPRS provided they do so in a manner clearly identifying them as the secondary source.

Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, military, economic, environmental, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available sources. It should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated; those from English-language sources are transcribed. Except for excluding certain diacritics, FBIS renders personal names and place-names in accordance with the romanization systems approved for U.S. Government publications by the U.S. Board of Geographic Names.

Headlines, editorial reports, and material enclosed in brackets [ ] are supplied by FBIS/JPRS. Processing indicators such as [Text] or [Excerpts] in the first line of each item indicate how the information was processed from the original. Unfamiliar names rendered phonetically are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear from the original source but have been supplied as appropriate to the context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by the source. Passages in boldface or italics are as published.

#### SUBSCRIPTION/PROCUREMENT INFORMATION

The FBIS DAILY REPORT contains current news and information and is published Monday through Friday in eight volumes: China, East Europe, Central Eurasia, East Asia, Near East & South Asia, Sub-Saharan Africa, Latin America, and West Europe. Supplements to the DAILY REPORTs may also be available periodically and will be distributed to regular DAILY REPORT subscribers. JPRS publications, which include approximately 50 regional, worldwide, and topical reports, generally contain less time-sensitive information and are published periodically.

Current DAILY REPORTs and JPRS publications are listed in *Government Reports Announcements* issued semimonthly by the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 and the *Monthly Catalog of U.S. Government Publications* issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The public may subscribe to either hardcover or microfiche versions of the DAILY REPORTs and JPRS publications through NTIS at the above address or by calling (703) 487-4630. Subscription rates will be

provided by NTIS upon request. Subscriptions are available outside the United States from NTIS or appointed foreign dealers. New subscribers should expect a 30-day delay in receipt of the first issue.

U.S. Government offices may obtain subscriptions to the DAILY REPORTs or JPRS publications (hardcover or microfiche) at no charge through their sponsoring organizations. For additional information or assistance, call FBIS, (202) 338-6735, or write to P.O. Box 2604, Washington, D.C. 20013. Department of Defense consumers are required to submit requests through appropriate command validation channels to DIA, RTS-2C, Washington, D.C. 20301. (Telephone: (202) 373-3771, Autovon: 243-3771.)

Back issues or single copies of the DAILY REPORTs and JPRS publications are not available. Both the DAILY REPORTs and the JPRS publications are on file for public reference at the Library of Congress and at many Federal Depository Libraries. Reference copies may also be seen at many public and university libraries throughout the United States.